STRICTLY CONFIDENTIAL

No. ___

PREFACE

From time to time you probably receive inquires from a variety of sources concerning our company's position on various matters in light of the controversey over smoking and health. This handbook sets out a number of the questions which are recurrently asked, and it also sets out the substance of suggested answers to these questions. Needless to add, the suggested answers are not intended to be exhaustive; you are not expected to be an expert on all aspects of the controversey. However, also included are guidelines for making statements and several background papers which provide more in-depth information on the various topics.

In order that you may be assured of giving an accurate statement of the company's position, all of these materials should be studied carefully.

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Guidelines

GUIDELINES

1. Your approach with respect to the company's smoking and health position should be affirmative, keeping in mind (1) the fact that there are outstanding scientists who do not accept a causal relationship between smoking and disease and who believe the question of smoking and health is an open one; (2) that smoking is important to the psychological needs of millions of smokers worldwide and (3) that the decision to smoke represents an informed choice on the individual's part and more governmental and legislative regulation of smoking is unwarranted and improper. It should also be pointed out that the diseases now attributed to cigarette smoking have existed for centuries, long before there was any cigarette smoking - people enjoy smoking and are likely to continue to smoke - and our ignorance is greater than our knowledge when it comes to smoking and health. For example, no ingredient, as found in smoke, has been shown to cause lung cancer or, as a matter of fact, other diseases.

2. Your responses to the various questions will have heightened credibility if you avoid overstating the company's position. At the same time, you should not accept phraseology which "loads the dice" against you.

A. Avoid flat assertions that "smoking is not dangerous." Our belief is that smoking has not been established to cause disease. We do not claim to have all the answers and do not believe that the anti-cigarette crusaders have them either.

B. Rather than refer to "safer" or "less hazardous" cigarettes, more accurate phraseology is "a more acceptable product to consumers."

C. (Smoking is a practice, a custom - not an "addiction." Many people, obviously, can and do give up smoking.)

D. Do not state that smoking is only one of many "causes" of disease. In this respect, it is better (and more accurate) to state that there is no one suspect when possible causes of cancer or heart disease are sought.

E. Industry - supported research has the goal of helping to determine and explain the gaps in knowledge which exist. Its purpose is not to support only "our side" of a "controversey."

F. Analogies between cigarettes and alcohol are dangerous, since it is accepted that alcohol is detrimental to health in many cases, and causes a wide range of social problems. Consider animal fats, sugar or coffee.

G. When discussing the scientific controversy regarding smoking and health, do not refer to the views of "our doctors" or "our experts." There are many doctors and scientists who believe that a causal connection has not been established between smoking and ill health - but they are independent researchers and experts; they are not "in the pocket" of the cigarette industry.

H. Current efforts by nonsmokers to regulate smoking in public are really an attempt to making smoking socially unacceptable. Claims about nonsmoker injury remain scientifically unproven.

3. It cannot be overemphasized that the tobacco industry is very conscious of and deeply concerned by questions raised about smoking and health. Philip Morris and the tobacco industry continue to have a long-term commitment to research, an important share of which is granted directly to independent scientists.

4. Certain questions may be so technical that you should take a position of (1) not being able to answer the question but being perfectly willing to furnish the information to the interrogator and anyone else who may request it, or (2) saying that had you known questions of such a technical nature were going to be asked you would have had a doctor or scientist standing by.

5. A review of the attached background material is necessary. A specific accurate reference is, naturally, preferable to a vague generality. On the other hand, no one can be expected to know everything about all subjects.

6. It is important to emphasize that the tobacco industry is a highly responsible industry, not only in terms of product research and development but also in its extensive funding of independent research projects, and equally with regard to advertising. On their own initiative, the cigarette manufacturers have taken many affirmative steps to meet the criticism of cigarette advertising which has been expressed by various persons.

7. Finally, this entire controversy should be put into true perspective. Millions of people derive pleasure from smoking. No responsible person or government agency favours prohibition of smoking. Adults should be free to decide whether to smoke or not to smoke. What is ultimately involved here is a question of consumer freedom - of the right of people to make up their own minds.

Draft
2 November, 1977

SMOKING & HEALTH - THE OPEN QUESTION

Despite the fact that no causal relationship has ever been conclusively established between smoking and disease, cigarette smoking is blamed for a myriad of medical conditions. Much of the problem is the result of inaccurate and incomplete reporting of scientific evidence. In addition, popular misconceptions are so often repeated that they become accepted. Some of the most common statements about smoking become less persuasive when the actual scientific facts are considered. There follows some examples of the type of misstatement commonly accepted by many together with a brief factual comment. A more complete discussion of the facts and inconsistencies surrounding the smoking and health controversy follows in the attached paper.

1. Cigarette smoking causes premature deaths due to lung cancer.

   Fact

   Lung cancer is a multifactorial disease of unknown cause - air pollution, diet, occupation, viruses, heredity and smoking are some of the factors that have been labeled as possible etiologic agents. No constituent as found in tobacco smoke has been proven to cause disease to humans. (See Section I)

2. Tests on animals have proven that cigarette smoke causes lung cancer.

Fact

Experiments with test animals have failed to produce any lung tumors which are of the type statistically associated with human smoking. (See Section I)

3. Lung cancer is solely a smoker's disease.

Fact

Most smokers do not develop lung cancer whereas many non-smokers do. It has been estimated that 10-20% of all lung cancers occur in nonsmokers. (See Section I)

4. Cigarette smoking causes heart disease.

Fact

While cigarette smoking is one of many alleged "risk factors" for heart disease, some noted authorities have questioned the smoking - heart disease relationship. In some large population studies there is not even a statistical relationship between heart disease and smoking. (See Section II)

5. Each cigarette smoked shortens the smoker's life.

Fact

Calculations indicating decreased life span among smokers fail to consider important differences between smokers and nonsmokers. When these variations are taken into account, no substantial differences in total over-all mortality are found. (See Section III)

6. Smoking is a harmful, useless habit.

Fact

Tobacco smoking is enjoyable and satisfying for many adults. Smokers often report it helps them to relax, to concentrate more, or to perform more efficiently. Many firmly believe it is one of life's pleasures. (See Section IV)

7. Millions of people are allergic to tobacco smoke.

Fact

True tobacco smoke allergy, if it even exists, is believed to be quite rare. Most people claiming to be allergic may be actually complaining about minor displeasure or their dislike for the aroma of tobacco smoke. (See Section V)

8. Tobacco smoke is harmful to the health of nonsmokers.

Fact

The reported data do not establish that tobacco smoke, as encountered in real life situations, is harmful to the nonsmokers. (See Section V)

9. The government should limit cigarette smoking to protect the nonsmoker.

Fact

In a free society the government's role is not to interfere with interpersonal problems of the citizens unless it is proven that individuals are actually being harmed. Since it has not been established that cigarette smoke is harmful to

the nonsmoker, there is no basis for government intervention. (See Section V)

10. Since it is known that cigarette smoking is harmful to the health of the smoker, the government should enact legislation against it.

Fact

What is commonly "known" or "believed" about smoking is not necessarily supported by scientific fact or proof. There are still many inconsistent answers regarding smoking and health. Further, the accepted role of government in a free society with reference to legal products is to inform its citizens, while leaving the exercise of free choice to the individual. Legislation or government intervention which would interfere with individual choice seeks to establish far different standards. (See Section VI)

A concerned public needs to be informed about the smoking and health controversy. (See Section VI) This requires that the many aspects of the issue be known. Statistics are not enough to prove that a causal relationship exists between smoking and health. Since so many factors are involved and their roles and relationships are so poorly understood, the problem is not a simple one. Only further well-defined, objective research can provide the answers.

SMOKING & HEALTH - THE OPEN QUESTION

This paper is not presented as a balanced discussion, but rather it is intended to indicate that there are many inconsistencies and unanswered questions in the smoking and health controversy. These inconsistencies must be acknowledged and more research must be undertaken to answer the questions raised about smoking. Further, the intent of this paper is to provide information about medical and scientific findings and views, publicly expressed, that are often ignored by the media and are generally unknown to the public.

For many years, certain individuals and organizations have claimed that smoking causes disease. Many governments have taken restrictive action with regard to tobacco. Such legislation is supposedly based on scientific information; but consideration of available evidence shows that the relationship between smoking and health is based primarily on epidemiological or statistical studies. These statistical associations alone can never establish a cause and effect relationship. The most that such data can do is to indicate areas for further specific scientific research. Unfortunately, even when researchers produce data that contradict the popularly-held belief that smoking causes disease, the results are either ignored or criticized without sufficient examination. It has become easier to indict smoking as the sole source of our medical problems than to confront the data which show an existing scientific controversy.

I. Smoking and Lung Cancer

The evidence said to implicate cigarette smoking as a cause of lung cancer, is, at most, inconclusive. It is represented primarily by statistical studies whose adequacy has been seriously questioned. In 1977, a U.K. physician noted "the cause of cancer of the lung is not known. We have only statistical inferences and forecasts. . . . Until it is discovered no one who values scientific evidence should assume that cigarettes cause cancer of the lung." [1] (author's emphasis)

At about the same time, a noted physician from South Africa reviewed some of the original statistical studies upon which the hypothesis that smoking causes lung cancer was based. Due to errors discovered in the data analyzed in these studies, he concluded that "the smoking hypothesis has received emphasis which it really does not deserve" and that "this hypothesis has to be abandoned." [2]

There are several facts to be kept in mind when claims about smoking and lung cancer are considered. For instance, lung cancer was an established disease entity long before cigarettes came into popular use. Most smokers do not develop lung cancer whereas many nonsmokers do. It has been estimated that 10-20% of all lung cancers occur in nonsmokers. [3] Lung cancer data are generally obtained from death certificates which have been shown to be unreliable in many cases.

Furthermore, lung cancer is often difficult for the clinician to diagnose accurately. [4] Some studies have shown that there is no increase in the disease among autopsied cases, while data based chiefly on nonautopsy cases show an increase of greater than 60%. [5] This may reflect an increase in the occurrence of the diagnosis of lung cancer rather than a true increase in the disease itself. Also, there is difficulty in determining whether a cancer originates in the lung or spreads to the lung from another site in the body. [6] Rosenblatt, in fact, has suggested that the reported increase in lung cancer is an artifact largely created by diagnostic error. [7-8]

Other inconsistencies and shortcomings are evident upon further analysis. Large variations have been demonstrated in lung cancer rates reported from various countries which cannot be explained by differences in tobacco consumption. [9] For example, Austria, Belgium and Finland report higher lung cancer rates than the United States, Canada and Australia despite the fact that per capita smoking rates are considerably higher in the latter countries. [10-11] Further, lung cancer in western countries remains a predominantly male disease, even though there are reports that female smoking has been increasing for many years. [12]

Evidence is currently being reported that the age incidence of lung cancer is changing. A number of studies report a recent decline in lung cancer mortality. [13-20] As noted by Sterling, "it would be unreasonable to observe a decline in lung

cancer rates at a time when the consumption of cigarettes is increasing if it were true that cigarettes are a major cause of lung cancer." [21] Further, he summarized the simplistic approach argued by the tobacco critics as follows: "The readiness with which the existing evidence has been accepted as demonstrating causality for cigarette smoking perhaps is the best measure for the desire to keep our world simple and orderly. But cancer is a complex disease." [22]

Experiments on laboratory animals have failed to support the hypothesis that exposure to fresh tobacco smoke causes lung cancer. Not only have these experiments employed unrealistic exposure levels, the procedures are not representative of and have no relevance to the human experience. [23] As researchers at Battelle have noted "Most of these experiments . . . lack similarity to human smoking habits. The validity of extrapolating results from such experiments to possible effects in man is therefore highly questionable." [24] Further, smoke inhalation experiments have failed to produce any lung tumors in animals which are of the type associated with human smoking. [25-26]

Interestingly, renewed public and scientific discussion regarding the relationship, if any, of smoking to lung cancer is presently occurring. In the United Kingdom, Professor Philip Burch, a medical physicist, reviewed the available data on lung cancer and concluded that there is strong evidence that lung cancer is caused by "spontaneous cell mutations." [27] In addition, his

1976 book which not only explains a new theory of carcinogenesis - consistent with the constitutional hypothesis - but also questions data used to support the link between smoking and lung cancer and has ignited considerable debate in the lay and scientific press. [28]

Researchers are now examining other factors which may be related to cancer incidence. Latif has noted that the smoking hypothesis is not sufficient to explain lung cancer. "We have searched for other causes and found that various environmental influences are the cause of bronchial carcinoma." [29] Other scientists have also investigated the possible roles of environmental and occupational exposure. [30-32] Still others have reported the importance of psychosomatic factors such as physical, emotional and meterological stress as well as the influence of psychological disorders in the etiology of cancer. [33-35]

The many inconsistencies and unanswered questions demonstrate that the smoking and lung disease hypothesis is not so simple as some would have the public believe.

II. Smoking and Heart Disease

Some scientists have attempted to explain the complex etiology of heart disease by analyzing the roles of alleged "risk factors" including cigarette smoking. However, studies have shown that no single "risk factor" is consistently associated with heart disease. [36-37] There is significant evidence which questions even the existence of a statistical association between smoking and the development of heart disease. For example, an international

study by Keys found that in Finland, the Netherlands, Yugoslavia, Italy, Greece and Japan, there was "little or no" relationship between cigarette smoking and coronary heart disease (CHD). [38]

Many studies throughout the world do not even report that cigarette smoking is a "risk factor" for coronary heart disease. An Italian investigator studied coronary heart disease patients to evaluate the effects of various "risk factors" and cardiovascular complications. [39] Only 3 factors, including high cholesterol, were found to be significant--cigarette smoking was not among them. Similarly, a large study comparing Japanese and American workers showed that "the only risk factors uniformly consistent with the frequency of coronary heart disease in the two countries were dietary fat, obesity and serum cholesterol." [40]

Cigarettes have been implicated largely by a few studies such as Doll's British doctors study and the Framingham Heart Study. Inconsistencies in the data as pointed out by Seltzer of USA [41] and Werko of Sweden [42] raise serious questions as to the validity of the results of such studies. Most studies show no clear association between CHD and duration of smoking nor the number of cigarettes smoked. [43] In Doll's data on British physicians, the doctors had an 8% rise in CHD mortality during the time that the proportion of cigarette smokers among the doctors reportedly fell approximately 50%. [44-45]

Perhaps the most significant epidemiological work on the relationship between smoking and CHD has been performed by

the Karolinska Institute which utilizes data from the Swedish Twin Registry. [46] By studying identical twins, the Swedish researchers are able to control for genetic differences between smokers and nonsmokers. Their findings have cast considerable doubt on the smoking-disease hypothesis. Lundman, for example, concluded that the reported excess morbidity and mortality from CHD "can be due to constitutional differences between smokers and non-smokers." [47] Liljefors, in a seven-year follow-up investigation of identical male twin pairs, compared blood pressure, serum cholesterol, and smoking habits; none of these factors influenced "the future development of CHD in twins apparently tainted with a heredity for this disease." [48] Similarly, De Faire studied risk factors in the development of ischemic heart disease (IHD). [49] He concluded that there is "substantial genetic influence" in the development of IHD. [50]

Further, there are studies which implicate factors other than smoking as important in the causation of coronary heart disease. Life style, personality, and genetics appear significant to the development of CHD. [51-52] In fact, there are studies which strongly suggest that a definite behavioral pattern, the coronary-prone behavior pattern (termed Type A) or perhaps a psychological trait concealed in that pattern, is associated with an increased risk of coronary disease. [53]

Indictment of cigarette smoking as a major risk factor in CHD mortality is contradictory to much scientific fact. As

Seltzer has said, "Unless these conflicts in the data are satisfactorily disproved or reconciled, the current enthusiasm for cigarette smoking as a major risk factor in coronary heart disease may become an outstanding fallacy of our era." [54]

III. Smoking and Life Span

Recently the Royal College of Physicians warned that every cigarette smoked shortens a smoker's life by 5 1/2 minutes "on the average." [55] In responding to this unbelievable claim, one physician noted that the Royal College "are straying away from scientific fact into the world of advertising" when they make such a calculation. [56] The author of an article which appeared in the German magazine Die Welt wrote that this "clever calculation . . . has something to do with counter-propaganda." [57] The 5 1/2 minute claim has also been treated derisively in newspaper cartoons. Finally, one letter to the editor described the claim as a "sort of gobbledygook." [58]

Further, this astounding allegation lacks substantial scientific documentation. It was simply calculated by comparing the mortality of groups of smokers to nonsmokers. Clearly, this calculation ignores the established fact that smokers differ substantially from nonsmokers on a number of variables. In fact, when researchers control for genetic differences by studying identical twins, there is no difference in mortality although the twins are discordant for smoking. [59]

IV. Smoking and the Smoker

Almost without exception, publications and discussions about smoking are concerned with the possible harmful effects of this custom. Little is said about the reasons people give for smoking. Nobel Prize winner, Dr. Ulf von Euler, described the imbalance when he said:

> "In my opinion, insufficient attention has so far been paid by scientists to the beneficial effects of smoking, while, strangely enough, its adverse effects on human health are being talked about all the time." [60]

Similarly, Dr. Hans Selye, world renowned pioneer in stress research, noticed the absence of any discussion of smoking's positive aspects as he testified before the Canadian Parliament:

> ". . . if smoking would only represent a risk, it would not have come up for consideration by this Committee because no one would smoke if he derived no satisfaction from it." [61]

Every smoker seems to know the pleasures and rewards as well as the claimed dangers of smoking. The failure to recognize the possibility of positive aspects of smoking to the smoker has characterized most publications on this subject. Yet, as pointed out by the U. S. Terry Report: "Medical perspective requires recognition of the significant beneficial effects of smoking." [62]

V. Smoking and the Nonsmoker

In recent years it has been suggested that tobacco smoke in the environment may be harmful to the nonsmoker. Yet, the reported data do not establish that tobacco smoke, as normally encountered in day-to-day living, is harmful to the average non-smoker.

Assertions about potential injury to nonsmokers due to tobacco smoke are not substantiated by scientific studies. Even many of those who claim smoking is a hazard to smokers take issue with such statements. For example, claims that environmental tobacco smoke exposes the nonsmoker to an increased risk of lung cancer has caused many nonsmokers to be alarmed. Dr. E. C. Hammond of the American Cancer Society, a participant in the International Conference on Public Education About Cancer, was quoted as saying, "that there 'was no shred of evidence' that a non-smoker can get cancer from 'second-hand' smoke and there is a lot of evidence that he cannot." [63] Another vocal anti-tobacco critic, the British organization, Action on Smoking and Health (ASH), has admitted that "[t]here is no evidence that other people's smoke is dangerous to healthy nonsmokers. . . ." [64]

In 1974, twenty-one scientists from seven countries attended an international workshop to review and evaluate data on the possible effects of environmental tobacco smoke on the nonsmoker. [65] The editor, in summarizing the workshop results, noted that for nonsmokers, the risk of developing chronic pulmonary disease from environmental tobacco smoke was "non-existent" and the risk of experiencing other effects relating to tobacco smoke exposure was even "less likely to occur." [66]

The amount of tobacco smoke to which a nonsmoker is exposed in public places is quite low. Two Harvard University scientists measured the air in various public places and found

that a nonsmoker's inhalation of tobacco smoke in one hour would be equivalent to smoking between one one-hundredth (1/100) and one one-thousandth (1/1,000) of a filter cigarette. [67] After a thorough literature review, Drogendyk concluded that under normal conditions, the alleged harmful constituents of tobacco smoke are in such low concentrations that they are of no significance to the health. [68]

Some scientists base their conclusion that tobacco smoke is harmful to the nonsmoker on studies that are unrealistic. Harke and his co-workers, for example, demonstrated in a series of experiments that reports asserting harmful health effects to the nonsmoker are based on exaggerated and extreme test circumstances rarely, if ever, encountered in daily life. [69-70] Klosterkotter [71] and others [72] have reported that the effects of CO and tobacco smoke occurring under realistic smoking conditions represent no risk to the nonsmoker.

Research has shown that the attitude of the individual influences physiological reaction to tobacco smoke. [73] It may be more of an annoyance reaction. "The nonsmoker will suffer some discomfort when exposed to concentrated cigarette smoke in an enclosed area, but there is no proof that his health is impaired thereby." [74]

Even Dr. Ernst Wynder, an internationally known opponent of tobacco use, recently stated in a Swiss interview that environmental tobacco smoke "can provoke tears or can be otherwise disagreeable but it has no influence on the health." [75]

A comprehensive review of the world literature dealing with the effects of smoking on the nonsmoker has been published by Schievelbein. His conclusion is stated simply: "[N]o proof of a threat to the health of nonsmokers through 'passive smoking' can be found in the studies available to date." [76]

It is important for the public to know all the facts about smoking and health so that the individual may make an informed choice of whether or not to smoke. In a free society, the traditional role of government with reference to legal products is to objectively inform the people--to give them the facts or see that they are given the facts--leaving the exercise of free choice to the individual.

VI. Smoking and Health Information

Information about the claimed health effects of smoking is available to the public from a variety of sources including the numerous reports and bulletins from both private and official agencies. But many sources would have us believe there is no controversy surrounding the smoking and health issue. If there is no controversy, why then does research on smoking and health continue and why do many knowledgeable scientists raise still more questions?

Reports such as those of the 1964 Terry Report and Royal College of Physicians which have denied the existence of a legitimate and continuing scientific controversy do a disservice to both the public and a great number of researchers.

A U. S. Senator observed in a 1972 Senate hearing that an element to be deplored is "to deny the very existence of a controversy by assertions that there is no disagreement with the official line that cigarette smoking causes human disease." [78] Research on smoking and health is presently being conducted throughout the world. Answers to the many complex questions can only be obtained through scientific investigation. For this reason, every effort should be made by industry and government alike to support quality research in the smoking and health field.

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DO YOU FEEL GUILTY WORKING FOR A CIGARETTE COMPANY?

No, I don't. I suppose you are referring to the health question. In the first place, I am advised that it has not been scientifically proven that cigarettes cause disease.

I am proud to work for a tobacco company. I am proud to be a part of an industry which has continued to have a steady growth world-wide. It is a strong and progressive industry. And I am proud to work for Philip Morris. I believe Philip Morris produces the highest quality products. Philip Morris's commitment to excellence in production and marketing, not to mention research and development, back what I say.

DO YOU HAVE TO SMOKE TO WORK FOR A TOBACCO COMPANY?

Of course not. Some of our employees smoke and some don't. It is not a consideration for employment and no one is encouraged to smoke once employed. I would say that the proportion of smokers and non-smokers in the company is about the same as it is for the general public.

IN THE FACE OF SO MUCH EVIDENCE AGAINST TOBACCO, HOW CAN YOU CONTINUE TO CALL THIS A SCIENTIFIC CONTROVERSY?

We believe that it is a scientific controversy because it has not been scientifically proven that smoking causes disease. There are statistical correlations between cigarette smoking and certain diseases. But as you know, statistics can be used to demonstrate an association between many things. However, statistics alone cannot establish a cause and effect relationship. Many possible risk factors are being studied. Unfortunately it has become easier to single out smoking and to ignore other possible factors. I am not an expert but I believe that a scientific controversey does exist.

HASN'T IT BEEN PROVEN THAT CIGARETTE SMOKING CAUSES LUNG CANCER?

First, I want to point out that a question of this nature would best be answered by a qualified physician or scientist.

However, I am advised that the evidence said to implicate cigarettes as a cause of lung cancer is quite inconclusive, it primarily consists of statistical studies, and statistics alone can never prove a cause and effect relationship. Many eminent scientists question this evidence stating that there are too many inconsistencies and unanswered questions. Cancer is known to be a most complex disease and only further scientific research will provide the answers to this complex scientific problem.

HASN'T IT BEEN PROVEN THAT CIGARETTE SMOKING CAUSES HEART DISEASE?

I am not a scientist but I am advised that scientists attempt to explain the complex cause of heart disease in terms of so-called "risk factors" including cigarette smoking. The validity of these has been questioned and to my knowledge no one factor has been singled out as the cause of heart disease. The newspapers constantly report that many factors - stress, diet, life-style, genetics and even personality may be involved. There appears to be many scientific questions which remain to be answered before the cause of heart disease will be known.

WHAT WOULD YOU REQUIRE AS PROOF THAT CIGARETTE SMOKING IS HAZARDOUS TO HEALTH?

While I am not a scientist, I believe that if the case against smoking was proved, we would know a lot more about the diseases involved and could then intelligently evaluate what to do about them. I would personally want to see a large number of presently existing questions answered before I accepted the theory as proved.

DO YOU SAY THEN THAT CIGARETTES "ARE GOOD" OR "SAFE" FOR PEOPLE?

We do not encourage anyone to begin smoking nor do we discourage anyone who wants to quit. We do not believe that smoking has been proved to be safe; neither do we believe that it has been proven to be harmful. A scientific controversy exists as to the "harmfulness" of smoking. As with many things in our lives - eating certain foods, driving automobiles, staying up late, participating in certain sports, to name a few - the possible "risks" must be balanced against the beneficial aspects. Recently, scientists have begun to study the positive aspects of smoking and as one has cautioned : "There should be no automatic assumption in such research that there are no beneficial effects of tobacco use." *

What I am saying is simply that people should be given the facts, the opinions of experts on both sides, and then they should decide whether or not they want to smoke. If someone smokes, it may be for various reasons - possibly they find pleasure or satisfaction from smoking.

* Dr. Peter Bourne, Special Assistant to President Carter on Health Issues, Speech before the Ad Hoc Committee on Tobacco and Smoking Research, November 10, 1977.

DO SMOKERS SOMEHOW DIFFER IN MAKE-UP FROM NONSMOKERS?

I am advised that smokers do differ from nonsmokers in many respects - life styles, for example are known to be quite different. Generally, smokers are more extroverted with faster life-styles, more energetic, drink more coffee and alcoholic beverages, marry and divorce more often, prefer spicier and saltier foods and change jobs more often. Smokers seem to fit into a behavior pattern characterized by individuals who are under more tension and stress. Nonsmokers tend to fit into a more relaxed, easy going pattern.

YOU SAY PEOPLE SHOULD BE GIVEN A FREE CHOICE AS TO WHETHER TO SMOKE OR NOT. DO YOU BELIEVE THEY SHOULD ALSO BE GIVEN A FREE CHOICE TO SMOKE MARIJUANA, USE HEROIN, DRINK CYCLANIATE PRODUCTS OR USE NUMEROUS OTHER PRODUCTS BANNED BY HEALTH AUTHORITIES?

I might ask whether you believe people should have a free choice to take aspririn, eat sugar or drink alcoholic beverages. The whole area of free choice must be balanced against the possible hazards to oneself and to others. Your examples demonstrate - as do mine - that the problems involved are relative and that judgments based on many considerations must be made. I believe cigarettes are a proper subject for free choice.

ISN'T SMOKING JUST A HARMFUL, USELESS HABIT? ARE THERE ANY POSITIVE ASPECTS OF SMOKING?

Tobacco smoking is enjoyable and satisfying for many adults. Smokers often report it helps them to relax, to concentrate more, or to perform more efficiently. Many firmly believe it is one of life's pleasures.

WHAT COMMENTS DO YOU HAVE ON THE ROYAL COLLEGE OF PHYSICIANS REPORT, SMOKING OR HEALTH, RELEASED RECENTLY?

I am not really qualified to comment on it but I am told that it really should not be classified as a scientific document. Apparently, it does not reflect any new research on smoking and health but simply reviews a number of existing studies in a selective manner. The Report appears to be a political attempt to promote statutory and other means of enforcement to restrict individual freedom to choose what and when to smoke. I believe you will find proper criticism of the medical conclusions of the Report appearing in the scientific literature.

WHY DO GOVERNMENT AND PUBLIC HEALTH OFFICIALS APPEAR TO BE SO CONVINCED OF THE RIGHTNESS OF THEIR POSITION AGAINST CIGARETTE SMOKING?

It is my opinion that smoking is a convenient target for attack. Smoking has been condemned on moral or health grounds for as long as I can remember - historically, for hundreds of years.

Everyone would like to know the cause of disease today. Unfortunately, it would seem that these officials are quick to single out smoking and to minimize or ignore other possible factors which may be involved in such complex diseases as cancer, heart disease and emphysema. It concerns me that research into these frightening diseases may be sidetracked and also that health officials may be entertaining such bias even in the name of public health.

ARE PEOPLE SMOKING MORE TODAY THAN THEY HAVE IN THE PAST?

The exact figures vary from country to country..... but with the phenomenon of an aging population due to increased life expectancy, there are more people today in the smoking age category.

MANY INDIVIDUALS FIND IT QUITE DIFFICULT TO GIVE UP SMOKING ONCE THEY BEING, DOESN'T THIS PROVE THAT CIGARETTES ARE ADDICTIVE? DO SMOKERS REALLY HAVE A "FREE CHOICE" AS TO WHETHER THEY CONTINUE SMOKING OR NOT?

It has become very difficult to discuss the word "addiction" because it is so commonly used to describe any of a number of personal habits and pastimes. Some people say that they are "addicted" to chocolate. In the United States, people are saying children are addicted to television.

Many people have given up smoking. Why do others continue to smoke when they say they would prefer not to? I don't know. Some people continue to overeat when everyone, even their doctor, tells them they should lose weight. Others overwork and ignore advice to slow down. The motivations for individual behaviour are not easy to understand. But I believe that as long as people are informed about a product or activity - the choice to use it or do it should be theirs.

DOES YOUR COMPANY DO ANY HEALTH RESEARCH? HOW MUCH DO YOU SPEND?

We are responsible for the development of superior products. Therefore, we do not consider health research within the company as an appropriate function for our research and development department.

However, Philip Morris and other cigarette companies have a long-term commitment to independent research. In the U.S., for example this is done through the Council for Tobacco Research or granted directly to independent scientists or institutions. The total industry contribution to such independent research in the U.S. alone has now exceeded 65 million dollars.

The funding of health research internationally is handled by the tobacco manufacturing associations in the individual countries. The amount spent by the associations varies and I cannot estimate the total contribution. However, again this money goes to independent scientists who publish the results of their research.

IS THERE A MOVE TOWARD ALL-OUT TOBACCO PROHIBITION?

Certainly there are some who call for all out prohibition of tobacco products although most responsible public health officials publicly recognize that prohibition would not be workable or desirable. The experience with the prohibition of alcoholic beverages in the U.S. confirms this. The simple fact is that the decision to quit smoking is a personal one, not one which society should force on a person. Restrictive laws are an infringement of personal freedoms.

DO YOU WANT YOUR CHILDREN TO SMOKE?

I really can't advise parents what to do about their children smoking as I think this is a matter for the family to determine. With respect to my own children, I believe that when they reach the age of mature discretion I expect them to be able to make a reasoned and intelligent decision on their own.

WHAT ARE THE ORGANIZATIONS THAT OPPOSE SMOKING?

There are many varied organizations that oppose smoking within any one country. (Cite national examples). However, there are also several international groups ~~who~~ which have sought to curb the use of tobacco products, such as the World Health Organization and the Union International Contre le Cancer. Most, on the national or international level, are so-called voluntary health associations. Others are self-appointed crusaders, those who force their self-righteousness on the general public, which have ~~sprung up~~ appeared in the last several years.

WHY ARE THE VARIOUS CIGARETTE MANUFACTURERS ENGAGED IN SUCH EXTENSIVE DIVERSIFICATION ACTIVITIES?

I cannot, of course, speak for any of the other cigarette companies. Some of the cigarette manufacturers have diversified to a considerable extent while others have done so only to a very limited degree. In the case of Philip Morris, however, we diversified before the major anti-smoking reports were issued in the early 1960s.

The diversification on the part of cigarette companies is no different than diversification by many companies in other industries - it simply reflects good business practice.

IS THERE ANY TRUTH TO THE RUMOUR THAT CIGARETTE COMPANIES ARE SETTING ASIDE LAND TO GROW MARIJUANA AND RESERVING NAMES TO SELL MARIJUANA PRODUCTS IF LEGALISED?

I can only speak for Philip Morris. Philip Morris is a responsible corporation and marijuana is an illegal product. It follows that we have held no discussions nor made any plans whatever involving this product.

THERE ARE REPORTS THAT WOMEN WHO SMOKE HAVE LOWER BIRTH-WEIGHT INFANTS. ISN'T THIS A GOOD REASON FOR DOCTORS TO RECOMMEND TO WOMEN WHO ARE PREGNANT NOT TO SMOKE?

Certainly this is a matter to be decided by each individual woman and her doctor: it is not a matter for us to decide.

However, I am advised that the studies which link maternal smoking with low birth-weight offspring are purely of a statistical nature and have not explained the biological, environmental and behavioural differences between smoking and non-smoking mothers. Further research is needed to determine what role these factors play in the outcome of pregnancy. I also understand that some doctors have cautioned against pressuring pregnant women to stop smoking pointing out that the excessive stress and guilt produced if a woman fails to stop or the undesirable weight gain that may occur if she does stop may be harmful. But again, this is really an individual matter between the woman and her doctor.

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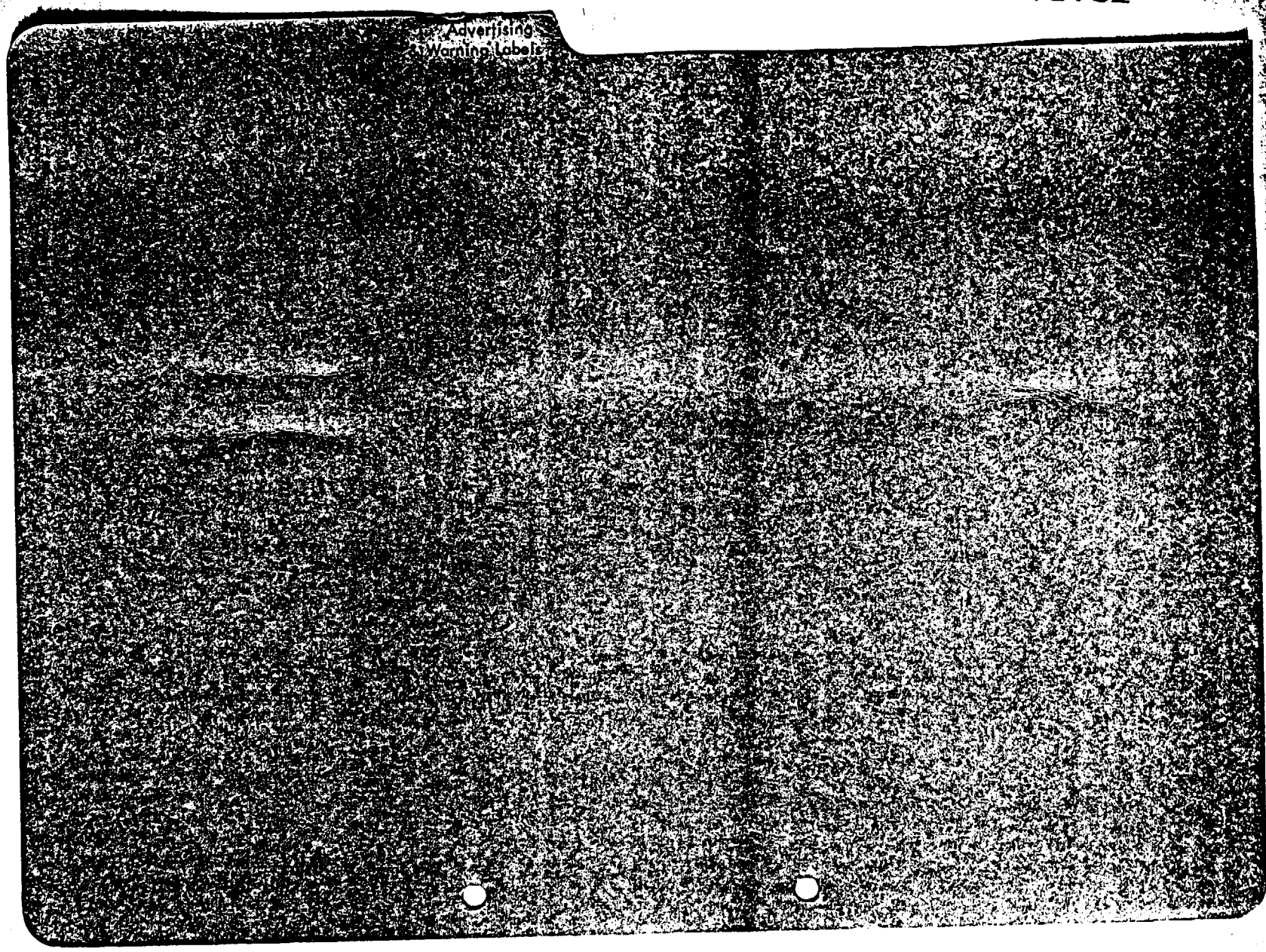

Draft
November 4, 1977

SOME PROBLEMS ABOUT ADVERTISING RESTRICTIONS AND WARNING LABELS -- A SUMMARY

In an effort to reduce cigarette consumption, proposals have been made to restrict or ban advertising and to place warning labels on cigarette packages and in advertising. However, supporters of such proposals ignore a number of important considerations when they make their claims. Some of those claims are listed below, with brief factual responses which are discussed at greater length in the attached paper.

1. Cigarette advertising should be banned because it encourages people to smoke.

FACT

Restricting or banning cigarette advertising will not reduce cigarette consumption since advertising does not cause people to smoke. Instead, advertising encourages smokers to continue using their current brand of cigarettes or to try another brand. As a result, cigarette advertising by competing companies functions only to divide, not increase, an already existing market.

2. Health warning labels should be placed on cigarette packages and in advertising because people are not informed about the health risks of smoking.

FACT

Those who argue that the public is not informed about the

claimed health risks of smoking apparently assume that other sources of information are not available. However, this is incorrect. The public has information available from many private and governmental sources. Even well-known anti-smoking spokespersons state that the public is informed.

Consideration of these facts indicates that efforts to place health warning labels on cigarette packages or in advertising and to restrict or ban advertising should be carefully examined before any action is taken. Experience has shown that hasty actions may lead to the need for change at a later time. In at least one country, a warning label requirement was later dropped.

Draft
November 4, 1977

PROBLEMS TO CONSIDER IN ADVERTISING RESTRICTIONS AND WARNING LABELS

For years, antismokers have contended that cigarette advertising serves as an important method of encouraging people to begin smoking or to continue smoking. As a result, these activists have urged that cigarette advertising be limited or even banned in an effort to reduce cigarette consumption. Other antismokers have advocated printing warning notices on cigarette packages and in advertising about the alleged effects of smoking. They, too, apparently believe that this will cause people to stop smoking or not to begin smoking. However, such arguments are not supported by expert studies which have investigated the effects of advertising or the experience of those countries which have restricted or even abolished advertising.

CIGARETTE ADVERTISING DOES NOT INCREASE TOTAL TOBACCO MARKET

Antismokers who assume that cigarette advertising influences people to begin smoking fail to understand how advertising functions in selling tobacco products. Economists who have studied the effect of cigarette advertising "generally concluded" that it has been used as a competitive weapon by the companies to divide rather than to expand the cigarette market.[1] This function of cigarette advertising was examined in an international study of eleven countries. The results were presented at an antismoking symposium entitled "The Third World Conference on Smoking and Health" held in New York City in 1975.

In explaining why cigarette manufacturers continue to advertise if they cannot expand their market, the study report explains:

> "Certainly, each company advertised in the hope of expanding the market for its own brand, and hence its own profits. But, since all of the companies advertised, their competitive advertising has been offsetting. No particular company was able to get any large competitive advantage from its advertising. Once all the companies advertised, each had to advertise, just to protect its sales and profits. Total cigarette consumption was but little augmented by this advertising."

The study report concludes that "since cigarette consumption has not been increased much by advertising, then consumption would not be reduced much if advertising were banned." Thus, it appears that competitive advertising does not increase the total tobacco market, but serves only to divide an already existing market. As a result, cigarette manufacturers use competitive advertising to maintain their share of the total cigarette market by promoting brand identification and loyalties among individual customers.

PEOPLE BEGIN SMOKING FOR PSYCHOLOGICAL REASONS

If advertising does not cause people to begin smoking, what does? Studies examining the motivations of people who begin smoking point to such psychological factors as curiosity, group adaptation and peer pressure.

For example, a 1969 study of public school children in the United States found that smoking behavior of friends and relatives was the most important influence on their decision to smoke, while cigarette commercials then on television had no effect.[2] In a news story explaining these results, the study director was quoted as saying, "The television commercials are an obvious devil for most of us who worry about adolescent smokers, but no one has looked closely enough at the devil to see if he has any substance."[3]

Two similar studies conducted in Australia and the United Kingdom also showed that the smoking habits of others were the major influence among young people, while advertising was not considered important.[4] A 1977 Gallup survey undertaken to study smoking behavior in American teenagers also found that advertising was not among the reasons given for beginning to smoke.[5]

ADVERTISING BANS DO NOT REDUCE CIGARETTE CONSUMPTION

In response to various pressures, proposals to ban or restrict cigarette advertising are appearing with increased frequency almost everywhere in Europe. A wide variety of such restrictions are already in effect, ranging from the abolition of all advertising in Finland, Italy, Norway and countries of eastern Europe, to the abolition of radio-television advertising in Austria, The United Kingdom, France, West Germany, the Netherlands, Switzerland and Holland, to the abolition of billboard

advertising in Denmark, France, and Sweden. However, the experience of those countries which banned cigarette advertising indicates that such restrictions did not have the effect anticipated by those who advocated their enactment.

A comparison of sales figures in countries before and after cigarette advertising was banned indicates that the advertising prohibition has not reduced consumption. For instance, sales of cigarettes, pipes, and smoking tobacco in Norway increased rather than decreased in its first full year of total advertising prohibition.[6] In some countries, a somewhat slower rate of sales growth was observed immediately after total bans on advertising, but such slowdowns were only temporary.[7]

In comparing marketing results between countries with competitive advertising and countries in which competitive advertising has been prohibited for substantial periods of time, investigators have found little difference in trends of per capita consumption. Therefore, advertising bans appear to have had little or no effect in the overall trend of cigarette consumption.

These findings would seem to be convincing evidence that restrictions on advertising will not serve the purposes of those who are lobbying for their enactment. Then why do calls for restrictions continue, in the face of such contradictory evidence? One tobacco company executive offered an explanation in an appearance before a group of advertisers in which he opposed attempts to restrict advertising by such "social reformers":

"Moreover, as the experience with cigarette advertising has shown, such attempts don't work because they are based on false perceptions of advertising. While that should be a compelling argument for them to cease and desist, it is merely a thorn of frustration for the crusaders, and they want more distortions, more restrictions."[8]

BANS ON CIGARETTE ADVERTISING RESTRICT EXCHANGE OF INFORMATION

Not only have advertising bans failed to reduce total cigarette consumption but they have also prevented customers from receiving the product information they need to make purchasing decisions. Advertising has been useful in informing the public about product changes such as filter cigarettes and the "lighter" cigarettes. A total ban would make it difficult for the cigarette industry to inform the public about later product developments. Even well-known anti-cigarette spokespersons are opposed to advertising bans for just this reason. One such individual, Dr. Ernst Wynder, told a Swiss reporter in an interview, "I do not believe that advertising has much influence. Advertising does not influence people to smoke, but it helps them to choose one or another brand. Above all, I am against an advertising ban because the 'lighter' and less harmful cigarettes manufactured nowadays, would not be widespread enough without advertising."[9]

Wynder's belief is shared by a speaker at an anti-smoking conference in London who said that "it is those countries where cigarette advertising is permitted that the trend towards safer, filter and now towards low 'tar' cigarettes has been most marked."[10]

Attempts by "social reformers" to restrict or ban advertising would limit the free access of consumers to information they need to make intelligent decisions in purchasing any product on the marketplace.

PUBLIC ALREADY WELL-INFORMED ABOUT SMOKING AND HEALTH CLAIMS

Those critics who urge that health warning labels be placed on cigarette packages and in advertising or that warning labels already in use be "strengthened" contend that the public must be informed about the claimed health risks of smoking. However, the public already has many sources of information available, including reports and bulletins from both private and governmental sources. As early as November of 1968, Daniel Horn, director of the U. S. National Clearinghouse for Smoking and Health (U. S. governmental antismoking propaganda bureau), conceded that the public was well aware of the smoking and health controversy.

> "You could stand on a rooftop and shout 'smoking is dangerous' at the top of your lungs and you would not be telling anyone anything they did not already know."[11]

In recent public appearances, both Dr. Wynder and Dr. Horn denied that warning labels printed on cigarette packages serve any educational value.[12]

At present, countries disagree on the need for or the wording of health warnings. Sweden requires sixteen different warnings to be printed at alternate times on cigarette packages.

Some are vague, such as, "Smokers have more sickness than nonsmokers." Others are more explicit, including, "Smokers run an increased risk of heart attacks and certain diseases of the arteries." France requires the warning that "Abuse is dangerous." The current United Kingdom warning reads, "HM Government Health Department's Warning: Cigarettes can seriously damage your health." Several countries do not require any warnings on cigarette packages sold within their borders. At least one country which previously required a warning on the cigarette packages has dropped this requirement. These broad differences demonstrate the uncertainty and confusion surrounding the use of warning labels in the smoking and health issue.

One essential feature of any warning is that it must be factual and meaningful to the ordinary reader. A warning which lists specific diseases supposedly associated with cigarette smoking could be interpreted in two different ways by the public: that smoking alone causes these diseases or that smoking always causes these diseases. Since neither interpretation is supported by scientific evidence, the warnings may mislead the public or prompt skepticism about their content.

WARNING NOTES IN CIGARETTE ADVERTISING ARE DISCRIMINATORY

The question must be asked why cigarette advertising has been singled out for such proposed restrictive legislation, [illegible]king is not the only subject of a health-related controversy.

Throughout the years, a great deal of attention has been focused on the possible health hazards of such products as dairy and meat products containing saturated fats, sleeping and pain pills, insecticides, and alcohol. But those businesses have not been confronted with such concerted efforts to regulate otherwise legal products.

Why then has cigarette advertising come under such vigorous attack? Perhaps cigarette advertising has been selected as an easy initial target by those who hope to abolish all advertising which they feel is an unnecessary expense eventually paid by the consumer.

In conclusion, regulations which would restrict or ban advertising or require the placement of health warning labels on cigarette packages and in advertising are inadvisable for several reasons. Experience has demonstrated that the declared goals of such regulations (i.e. to educate the public and to reduce sales) will not be met. Satisfactory factual language for warning labels has not been found, and misleading wording can only confuse the public. Attempts to single out one industry for such restrictive treatment are discriminatory and unnecessary. Further, the smoking public would be denied access to information necessary to make informed choices about new products and product changes. For all these reasons, efforts to restrict advertising activity and to implement health warning labels are inappropriate limitations of the freedom of the individual and should be avoided.

FOOTNOTES

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2. Levitt, Eugene, "Reasons for Smoking and Not Smoking Given By School Children," The Journal of Public Health, February, 1971, pp. 101-104.

3. "Smoking Habit Picked Up from Friends," Special Report from the New York Times News Service, September 9, 1969.

4. Australian Department of Health, "Smoking Habits of School Children," Health 19(3): 16-18, 1969.

   Australian Cigarette Manufacturers Submission to the Senate Standing Committee on Social Welfare, April, 1977, pp. 44-45.

5. "Gallup/Teens Know the Dangers of Smoking," Newsday, September 14, 1977.

6. Conference Statement, Action on Smoking and Health, "Smoking and the Media," October 11, 1976.

7. Lee, P. N., Editor, Tobacco Consumption in Various Countries, Research Paper No. 6, 4th Ed., Tobacco Research Council: London, 1975.

   Hamilton, James, "The Effect of Cigarette Advertising Bans on Cigarette Consumption," Smoking and Health. II. Health Consequences, Education, Cessation Activities and Governmental Action, pp. 829-840.

8. Speech given by Philip Morris official before Association of National Advertisers, New York City, February 3, 1977.

9. "Wenn schon-dann lieber harmlos Rauchen!" Face to Face, Schweizer Illustrierte, October 25, 1976.

10. "Restrictions on Cigarette Advertising," speech given in London, October 25, 1976.

11. "Is End Near for Smoking?" Syracuse (N. Y.) Herald American, November 3, 1968.

12. "Wenn schon-dann lieber harmlos Rauchen!" Face to Face, Schweizer Illustrierte, October 25, 1976.

    Horn, Daniel, presentation before ACS National Commission On Smoking And Public Policy, March 22, 1977.

VARIOUS HEALTH AUTHORITIES HAVE DETERMINED THAT CIGARETTE SMOKING IS DANGEROUS TO THE HEALTH OF THE SMOKER. IT HAS BEEN CHARGED, HOWEVER?, THAT THE THEMES IN CIGARETTE ADVERTISING ARE DESIGNED TO REASSURE THE PUBLIC THAT THIS IS NOT TRUE, AND THAT SUCH ADS. PORTRAY SMOKING AS WHOLESOME. DO YOU HAVE ANY COMMENT ON THAT?

Our advertising is, of course, subject to careful surveillance by ----------. We do not make any health claims in our advertising. We do not use athletes or other celebrities to make testimonials. I believe that our advertising is truthful.

The themes we use in our advertising are not significantly different from those used in the advertising for other products - including products involved in health or safety controversies.

SHOULDN'T CIGARETTE ADVERTISING BE BANNED BECAUSE IT ENCOURAGES PEOPLE TO SMOKE?

Advertising does not cause people to smoke. All of the studies on this subject that I have heard of clearly demonstrate that advertising encourages present smokers to continue with their brand of cigarette or to switch to a new brand being offered or introduced. Competitive advertising is used to inform the consumer of product availability, product modifications and innovations and has no reported effect on the total market. Neither do advertising restrictions or bans. These measures serve only to limit the amount of information available to the smoker in making his choice of which brand to smoke.

SHOULDN'T HEALTH WARNINGS BE PLACED ON CIGARETTE PACKS AND IN ADVERTISING TO INFORM PEOPLE ABOUT THE HEALTH RISKS OF SMOKING?

Those who urge that health warnings should be required on cigarette packs or in advertising or that existing warning labels should be "strengthened" contend that the public must be informed about the claimed health risks of smoking. However, the public already has many sources of information available, including reports and bulletins from both private and governmental sources. Even well-known anti-smoking spokespersons state that the public is adequately informed. In fact, in the U.S. the views of President Carter were recently restated in a speech by Dr. Peter Bourne, Special Assistant to the President for Health Issues: "the American people have been adequately warned."

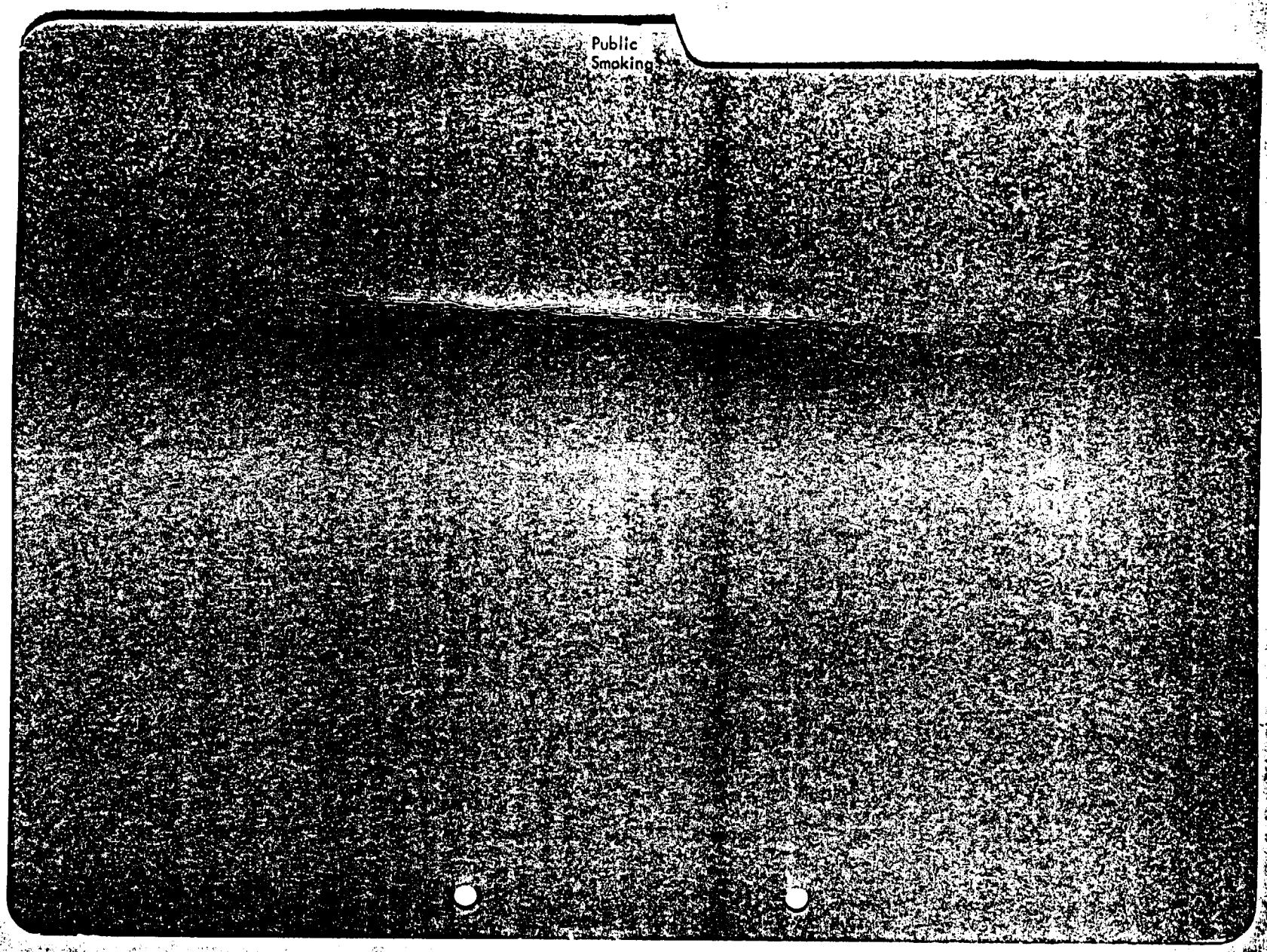
IF YOU SAY THAT ADVERTISING DOES NOT ENCOURAGE PEOPLE TO BEING SMOKING, WHAT DOES?

I am advised that studies which have examined the motivations of people who being smoking point to such influences as curiosity, group adaptation and peer pressure. Advertising was not found to be an important influence. As recently summarized in the British Medical Journal (October 22, 1977), "what makes people smoke is still largely a mystery."

AREN'T CIGARETTE COMPANIES USING SPONSORSHIP OF SPORTING EVENTS, ART EXHIBITS ETC. AS A MEANS OF CIRCUMVENTING THE ADVERTISING AND PROMOTIONAL RESTRICTIONS WHICH HAVE BEEN ENACTED?

I cannot speak for all companies, but it is sincere belief that none of the companies have any intention or plans to circumvent existing laws restricting or banning advertising. Often times these restrictions have come about as a result of voluntary action by the cigarette companies themselves. This voluntary action has been taken in good faith, and we fully intend to comply with the letter and the spirit of any such laws.

However, cigarette companies have sponsored sporting and cultural events for a long time before advertising restrictions came into force. This remains a lawful type of promotion and our sponsorship of such events is generally catered to those activities in need of financial support for their existence. Certainly we may gain from sponsorship, but also believe that one must not overlook the public service benefit which is also derived from such activity.



Special Issue

Executive Report
SMOKING AND HEALTH NEWS

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The Question of 'Public Smoking'

This special issue focuses on a subject that has become increasingly familiar to many - "public smoking" and the campaign to limit or prohibit smoking in public places.

The crucial question is whether the exposure of nonsmokers to tobacco smoke in normal, everyday situations actually creates a health hazard. The answer, arrived at after a careful examination of the scientific literature, is unequivocally "No." Indeed, many scientists who believe smoking is harmful to smokers have publicly stated there is no evidence that public smoking is harmful to nonsmokers.

Why, then, is so much emphasis being placed on the subject? A simple answer is difficult, but it seems reasonable to conclude that the failure of the campaign aimed at making smokers stop smoking has resulted in a compensatory effort to make smoking "socially unacceptable."

The campaign for outright bans or restrictions of smoking in public places is noteworthy for its lack of supporting scientific findings. However, it is causing unpleasant and potentially dangerous events. Smokers and nonsmokers, friends and neighbours, are being set against each other. Social friction has arisen in many instances. Violence and militancy have been kindled in some cases. And, most serious of all, personal freedoms in democratic societies are being attacked and eroded.

There is no need to demand restrictive legislation, to infringe on freedom of choice. Common sense, courtesy and tolerance for the preferences of others are all that is needed to enable smokers and nonsmokers each to enjoy their preferences and to respect those of others.

Society is ill-served when its members are subjected to any kind of campaign based on fear or misinformation. No goal can be justified by the use of any expedient or contrivance used in an effort to attain it. Emotional rhetoric is not a substitute for scientific fact.

The Editor

SUMMARY

No Scientific Proof for 'Public Smoking' Theory

To some it's "public smoking." Others call it "passive smoking" or "involuntary smoking," and it is also frequently referred to as "second-hand smoke" or "environmental smoke."

No matter what phrase is used, it means only one thing: the inhalation of tobacco smoke in the ambient air by nonsmokers who are in the vicinity of smokers.

Behind this phrase is the allegation that such inhalation constitutes a health risk for the nonsmoker.

Those who make this allegation are seeking to have governments - national, regional and local - enact legislation or issue rulings to restrict or prohibit smoking in public places and transportation facilities. They have been successful in certain instances to date.

Supporting or corroborative scientific data for the theory that public smoking is harmful do not exist. On the contrary, there is a considerable amount of research findings which show that normally encountered environmental tobacco smoke is not a health hazard to nonsmokers.

It is significant that many scientists who have claimed smoking is a health hazard for smokers (especially smokers of cigarettes), have also expressed their belief that public smoking does not represent such a hazard for those who do not smoke.

How It Began

The public smoking theme appears to have been promoted for the first time

by Dr. Jesse L. Steinfeld during his 1968-1973 term as Surgeon General of the U.S. Public Health Service. This is a major division of the Department of Health, Education and Welfare (DHEW).

In a 1971 speech he said: "Evidence is accumulating that the nonsmoker may have untoward effects from the pollution his smoking neighbour forces upon him... It is high time to ban smoking from all confined public places such as restaurants, theatres, airplanes, trains, and buses..."

Dr. Steinfeld did not cite any evidence, nor did he give any scientific references that would support a ban. He did not mention a booklet, "Smoking, Health, and You," which had been published several years earlier by DHEW.

A question in this booklet asked: "Can it harm you to breathe the smoke from other people's cigarettes?" The answer was: "No. It may make your eyes tear or make you cough, but it cannot harm you..."

Three months after the 1971 speech, Dr. Steinfeld was called to testify before a committee of the U.S. Congress. Questioned about the booklet, he responded: "I think we just do not have enough information to make any categorical statement other than it (public smoking) is unpleasant."

Regardless of the disavowal, a new campaign theme had been created for anti-smoking groups in the USA and Europe.

The 1972 U.S. Surgeon General's report on smoking and health to Congress apparently was the first major document to claim public smoking might be harmful to nonsmokers.

The Carbon Monoxide Claim

The major argument for the alleged dangers from "passive smoking" rests on the claim that the carbon monoxide (CO) produced by a burning cigarette causes health damage to nonsmokers. The emphasis remains on CO, though other substances, nicotine among them, occasionally have been cited as suspect agents.

Carbon monoxide is a colourless, odourless and tasteless gas that is produced by the combustion of any material containing carbon. There are incredibly vast amounts of CO in the earth's atmosphere - an estimated 530 million metric tons at any given moment - and the great bulk of it comes from natural sources.

The chief man-made source of environmental CO, according to many scientific studies, is exhaust gases from the internal combustion engine - the ubiquitous motor vehicle. Other prominent sources include industrial activities, the burning of fossil fuels to produce electricity and for space heating, the burning of solid waste, cooking, etc. In urban areas, CO emission generally exceeds that of all other pollutants.

When inhaled, CO combines with the blood's haemoglobin, that portion of the red blood cell that carries vital oxygen to the tissues. This leads to the formation of a compound called carboxyhaemoglobin (COHb), and the higher the concentration of this in the blood, the less is this fluid's capacity to transport oxygen.

The situation is reversible, and the relatively rare cases of serious health damage come only from exposure to extremely high concentrations of CO over long periods of time.

Negligible CO from Cigarettes

The amount of CO emitted into the general environment by cigarette smoke is negligible, according to a report by a scientist with the U.S. National Air Pollution Control Administration.

Numerous studies, described below, have invariably shown that under conditions that exist in everyday living, CO from cigarettes does not accumulate in the air of "public places" or rooms in amounts that could be harmful to humans.

Governments of several countries have established a figure for CO of 50 parts per million (ppm) as a safe maximum for workers for 8 hours a day, 5 days a week, for their work careers. Scientists have shown that it is virtually impossible to attain this concentration in a closed room or a house by cigarette smoking alone. Normal leakage through cracks around doors and windows allows circulation of air into and out of the space, and this is usually enough to change the total volume of air at least once an hour.

Humans Also Produce CO

Humans and animals generate their own CO as a natural life process. The gas is a by-product of metabolism, the sum of the complicated processes in cells that are essential to life.

Even when no CO is inhaled, the average concentration of COHb in human blood ranges from 0.4 to 1% of the total haemoglobin content of the blood. If there is CO in the inhaled air, the COHb concentration goes above this basic level. The amount of the increase depends on the CO concentration in the inhaled air and the length of exposure, in addition to other factors.

The critical factor is how much COHb is formed in the blood, not how much CO is in the air. A short exposure to a high concentration of CO may lead to lower COHb than a long exposure to a lower level of CO.

A chapter in the 1972 U.S. Surgeon General's report referred to studies in which COHb levels of nonsmokers were increased by exposure to ambient tobacco smoke. Several of these studies contained qualifying language explaining that the experimental conditions did not represent normal human experiences. However, the Surgeon General's report did not mention these important qualifying statements.

Meeting Discusses 'Passive Smoking' At Places of Work

Munich - "Passive smoking" has not been proven to be a hazard to healthy adults, says a medical journal report of a meeting held here recently on the subject of "Passive Smoking at Places of Work." The meeting was organized by the Bavarian Academy for Work and Social Medicine.

Discussions at the session, which was attended by both scientists and lawyers, were aimed at reaching mutual understanding between smokers and nonsmokers, the medical journal said. There was also a demand for greater tolerance on the part of both groups.

The journal quoted Prof. Dr. Werner Klosterkötter of Essen as telling the meeting that under normal conditions, environmental concentrations of carbon monoxide, nitric oxide and nicotine from burning cigarettes are far from any possible level that might affect a person's health.

Prof. Dr. H. W. Schlipköter of Düsseldorf was reported as saying that maximal permitted concentrations of various substances in cigarette smoke are exceeded only under extreme conditions, such as unventilated, smoke-filled rooms.

According to present medical knowledge, there is no health danger from "passive smoking," Dr. Schlipköter was quoted.

While opposing views were expressed, the medical journal article noted that since no health dangers from "passive smoking" have been proved, there should be no general smoking ban by legislation. (*Praxismagazin. Münchener Medizinische Wochenschrift* 119 (1977), No. 19.)

Research by Dr. Harke

One study cited in the Surgeon General's report was done by Dr. H.-P. Harke of Hamburg, West Germany, a scientist who has conducted considerable research into the possible effects of public smoking. He has frequently published findings which show that environmental tobacco is not a health hazard for nonsmokers.

Dr. Harke, in this particular project, had 21 persons smoke 2 cigarettes each in 16-18 minutes in a closed room 57 cubic metres in volume. The purpose, he wrote, was to study the influence of ventilation on the CO and nicotine content of room air "under extreme conditions that did not correspond to normal situations."

Under the abnormal conditions, he said, the CO and nicotine concentrations approached those maximum permissible levels set by the West German government for working places. However, he added, "they are never approached under actual conditions."

Moderate ventilation of the kind usually present results in a drop of the concentration "substantially below" the government maximums, Dr. Harke said.

Low Nicotine Absorption

In another phase of the study, he measured airbone CO and nicotine under normal conditions in an office designed for two persons. The concentrations of the two substances were low, he said.

Nonsmokers absorbed only 1/100th of the nicotine absorbed by the smokers who inhaled when both were in the same room, Dr. Harke said.

In a later report on tests in which cigarettes were smoked by a machine to generate smoke, Dr. Harke said the findings "do not allow the conclusion that measured concentrations contribute to human illness in the sense of toxicity."

He also looked closely at the physiologic reactions of nonsmokers in a room (170 cubic metres in volume) in which 150 cigarettes were smoked by machine in 30 minutes. The smoke concentration was heavy.

"The results of these experiments demonstrate that, of the measurement magnitudes selected by us - blood pressure, pulse frequency, electrocardiogram, and skin temperature, which can only be considered criteria for the acute effects of smoke - skin temperature shows the most sensitive reaction to the influence of cigarette smoke," he reported. "The quantities of smoke absorbed during passive smoking are too small to cause a significant change in the skin temperature of nonsmokers, even when the nonsmokers are located in rooms containing extremely large smoke concentrations."

Importance of Ventilation

The importance of ventilation, often stressed by researchers in work involving "passive smoking," is seen in a British study in which 20 persons (12 nonsmokers, 8 smokers) sat in an unventilated room 43 cubic metres in volume. Eighty cigarettes and 2 cigars were smoked or burned in 78 minutes.

The scientists who conducted the study, Drs. M. A. H. Russell, P. V. Cole and E. Brown of London's St. Bartholomew's Hospital, said the experimental conditions were "rather extreme" and resulted in smoke conditions "not likely to be met very often in natural social conditions."

They also found what they called a "puzzling result" in the nonsmokers: no significant relation between the amount of CO absorbed and the duration of exposure to smoke.

The aforementioned study was published in "The Lancet," a British medical journal, on 7 March 1973. One of the scientists, Dr. Cole, later reported in the journal "Nature" (26 June 1975) a study in which he compared the effects on carboxyhaemoglobin in humans from atmospheric CO and cigarette smoking.

In that article Dr. Cole wrote: "It is unlikely that COHb levels similar to those found in our nonsmoking subjects could be shown to be harmful to health."

Bartenders at Risk?

In May 1976, three scientists at the University of Cincinnati, Ohio (USA) reported a study which, they said, showed that bartenders in smoke-filled taverns could suffer a health risk from the CO and other substances produced by the cigarettes of their customers.

The report was carefully analyzed by two researchers at the Harvard School of Public Health, Boston (USA). In a later issue of the same journal in which the report had appeared, they pointed out it had "certain errors" which made the conclusions doubtful.

"Because of strong public sentiment on the subject of passive smoking," warned Drs. Melvin W. First and William C. Hinds, "it is imperative that investigators in this field do careful and responsible work to avoid sensational claims on one side or the other of this issue."

These two investigators had earlier published results of their own study of tobacco smoke concentrations in a variety of public places. Their findings did not suggest any health hazard to nonsmokers, they said.

Research in Sweden

Two Swedish scientists, Drs. Gunnar Anderson and Tore Dalhamn, conducted an experiment in which 7 smokers and 5 nonsmokers were exposed in a ventilated but closed room for 2 hours to smoke from cigarettes, pipes and cigarillos (cigarettes made from pipe tobacco).

There was no significant increase in COHb levels in the nonsmokers, they reported, and the CO concentration in the room, which rose to a mean value of 4.5 ppm, "cannot be assumed to constitute any health risk to nonsmokers." (Before smoking, the room CO concentration was 2 ppm.)

Long-Term CO Exposure

Well-conducted research does not support any claim that long-term exposure to CO might be hazardous to nonsmokers.

In a study of guards who worked in a motor vehicle tunnel in New York City it was reported that they were healthy and that their work performance did not seem to be affected even though

Cancer Claim Is 'Dishonest'

Dr. E. Cuyler Hammond, chief statistician of the American Cancer Society, has often said smoking is dangerous for smokers. In 1974 he participated in an international conference on public education in cancer sponsored by the International Union Against Cancer. In 1975 the Union published a report on the conference that included the following:

"Dr. Hammond stated that there 'was no shred of evidence' that a nonsmoker can get cancer from 'secondhand' smoke and there is a lot of evidence that he cannot. For instance, one doesn't find in the tracheobronchial trees of nonsmokers those atypical cells which are so characteristic of even light cigarette smokers. He added that to suggest passive smoking could cause cancer is dishonest, and that he would be prepared to testify as much in a court."

they were regularly exposed to CO concentrations averaging 70 ppm. Some exposures rose as high as 200-300 ppm.

Commenting later on this study, Dr. T. J. Curphey wrote in a medical journal: "What appears to be the most significant observation of this study of traffic officers in the Holland Tunnel is that the blood CO levels of nonsmokers in the tunnel on the average exceeded those of smokers in an environment free from any occupational exposure to CO. Since these men remained healthy after being consistently exposed for 13 years to CO levels appreciably higher than those found in tobacco smoke, the conclusion then is inescapable that smokers with CO levels that lie well within the same ranges are similarly unaffected by CO."

In another project, Dr. Frank Stern of Cincinnati, Ohio (USA) examined the causes of death of men employed as motor vehicle examiners by the state of New Jersey. Fewer deaths than had been expected were found, and of these fewer than expected were from heart disease.

The workers generally were exposed to CO concentrations below 35 ppm, but at times the level reached 200 ppm, Dr. Stern said. Smoking histories were not available, but it seemed likely that workers' smoking experience was similar to that of the general white male population in the U.S.

CO and Heart Disease

There have been some reports claiming that exposure to CO, especially in cigarette smokers, can contribute to the development of atherosclerosis, or hardening of the arteries. Several studies on pigeons, rabbits, dogs, primates, and humans have not shown any harmful effects at blood COHb levels of 15%, a high level rarely found in humans and then only transiently.

In a report on an experiment done on rabbits, three British investigators wrote that "the relationship of moderate chronic CO exposure to the development of arterial disease still remains open."

They also said that extrapolation of the data from animal studies to "the human tobacco smoker must, again, be applied with much caution, and the role of substances other than carbon monoxide should continue to be investigated."

Dr. Kenneth Master of The Bronx, New York, has written about the inhabitants of the New Guinea highlands who maintain fires in small, poorly ventilated huts where CO levels average 21 ppm and sometimes reach 150 ppm. Most of the adults also smoke home-grown tobacco, another source of CO, he said.

Cardiovascular disease is a relatively rare cause of death among the natives, Dr. Master wrote in a letter to a medical journal that concluded with this paragraph:

"Thus, exposure to elevated levels of CO does not induce arteriosclerosis vascular disease in natives of the highlands of New Guinea. It is likely that inhalation of CO alone does not directly cause atherosclerosis in man but, in combination with dietary, stress, hereditary, and other unknown factors, may predispose to it."

Animals Tests With CO

Animal experiments have also been conducted to see whether there are any biological effects from long-term exposure to CO.

In one such study, scientists from the USA and Canada exposed monkeys to high concentrations of CO for 22 hours a day, 7 days a week, for 2 years. The animals had increased COHb levels, but no adverse effects were detected in various blood components or in heart or brain tissues.

"The conclusion is reached," wrote the scientists, "that these levels of carboxyhaemoglobin for two years did not lead to any biologically significant changes in the monkeys."

In another experiment, investigators at the University of Washington, Seattle (USA) used rat embryos maintained in a culture medium so that their heartbeats were vigourous and constant.

The embryos were exposed to "hyperlethal concentrations" of CO with no adverse effect noted, the researchers reported.

"The observed results are entirely unexpected," they wrote. "The lack of any apparent detrimental effect on the heart or indeed of any observed difference between the experimental animals and the controls is difficult to explain consistent with the known toxicity of CO and the demonstrated effect of the test gas mixtures on adult mice and on the colour of embryonic blood."

International Meeting of Experts

In March 1974, an international workshop on the subject of "Tobacco Smoke Effects on the Nonsmoker" was held with 21 experts participating, all of whom had previously done considerable research into various aspects of smoking and related fields. During the three-day conference, according to one of the participants, there was not one conclusive observation to the effect that exposure to environmental tobacco smoke causes disease in nonsmokers.

Dr. Ragnar Rylander, formerly of Geneva University in Switzerland and now at the University of Gothenburg in Sweden, was the principal organizer of the gathering.

In a report published later, he wrote his personal conclusion was that "the risk for the development of chronic pulmonary effects due to environmental tobacco smoke exposure is non-existent among the population in general."

Another participant was Dr. Domingo M. Aviado, professor of pharmacology at the University of Pennsylvania, Philadelphia (USA). He has said that "on the basis of existing scientific evidence, tobacco smoke constitutes no health hazard to nonsmokers in public places."

Dr. Aviado made this statement at a public hearing called by officials of a local government who were considering legislation to prohibit smoking in public places.

Another speaker at the hearing was Dr. Walter M. Booker, professor of pharmacology at Howard University College of Medicine, Washington, D.C., for 33 years and chairman of the school's department of pharmacology for 20 years. The proposed legislation was without scientific support, he said, citing research studies to show that no adverse effects have been demonstrated in nonsmokers exposed to smoke.

'Passive Smoking' by Children

Young children are considered to be "passive smokers" if they live in households where one or both parents or other family members smoke. Do such situations have adverse effects on the youngsters?

Dr. John R. T. Colley of London's School of Hygiene and Tropical Medicine attended the international workshop previously mentioned and, with Dr. Rune Cederlof of the Karolinska Institute in Stockholm, reported on epidemiological investigations on environmental tobacco smoke.

"When parents' respiratory symptoms were taken into account, exposure of the child to cigarette smoke generated by the parents' smoking had little if any effect upon the child's respiratory symptoms," they wrote. "Thus associations between parental smoking and children's respiratory symptoms reported by other authors and interpreted as indicating the effects of environmental tobacco smoke, may in fact be wholly an effect of parents' respiratory disease."

In regard to respiratory diseases in children, a report recently published in the "British Medical Journal" (16 July 1977) said an association has been found between cooking with gas and chest ailments in young boys and girls.

The report, by four researchers at London's St. Thomas's Hospital Medical School, described results from a long-

term study of more than 5,700 children aged 6 to 11 years from 28 different areas in England and Scotland.

It was found that children from homes where gas was used for cooking had more cough, chest colds and bronchitis than did children from homes where electricity was used. The girls also had more wheeze in homes where gas was used. This "cooking effect" was independent of the effects of age, social class, family size, overcrowding, types of fuel used for heating, etc.

The researchers concluded that the increased incidence of respiratory disease in the children resulted from the higher levels of so-called oxides of nitrogen produced by the burning of gas for cooking.

Performance and 'Passive Smoking'

As has been stated, the alleged but largely unspecified harmful effects of "passive smoking" result chiefly from the presence of carbon monoxide produced by burning cigarettes. Studies have been done to see whether CO actually produces adverse effects in regard to mental behaviour and physical performance.

In 1967 and 1969, some published reports indicated CO exposure impaired a person's ability to distinguish between short intervals of time and to estimate 30-second time intervals. These decrements in time perception were said to occur upon exposure to CO at concentrations as low as 50 ppm for 90 minutes, exposures that are acceptable industrial standards in some countries, commonly found in urban population areas as a result of air pollution, and much lower than those experienced by the average adult who smokes one pack of cigarettes a day, according to one investigator.

Four scientists at the Medical College of Wisconsin, Milwaukee (USA), sought to corroborate these claims, but their results were totally negative.

They exposed 27 healthy adult men and women to CO at concentrations ranging up to 500 ppm for periods up to 5 hours to determine the effect of the gas on time perception. The exposures resulted in COHb concentrations as high as 20%, but did not impair the ability of the subjects to perform various time discrimination or estimation tests.

In another study, aerospace medical researchers at Wright-Patterson Air Force Base, Ohio (USA), exposed subjects to CO concentrations ranging up to 250 ppm for 3 hours and then tested them for time estimation, their ability to keep a needle display dial from going off scale by manipulating a control stick, and loss of muscular coordination.

No adverse effects of CO were detected, the scientists reported.

"It is concluded that the present data do not support the hypothesis that low level CO exposure of humans results in performance decrement," they said.

The same research group, in a later study, exposed humans to 75 and 150 ppm of CO during sleep for 9 hours. Upon waking, the subjects were given mental arithmetic, time estimation, tracking, monitoring, and visual tests. No performance decrements or differences from control conditions were found.

Tobacco Allergy: Myth or Truth?

A small number of nonsmokers may be annoyed when they are in the presence of tobacco smoke. True tobacco allergy, however, is rare. Dr. Domingo Aviado of the University of Pennsylvania has described the situation this way:

"Since tobacco smoking first became part of our lives, smokers and nonsmokers have coexisted with little, if any, friction between them. There are certain individuals who object to tobacco smoke and these may generally be grouped as follows: (a) those who dislike the odour or are annoyed by it, and (b) those who complain of irritation, primarily of the eyes and nose."

"The (a) group represents a psychosocial phenomenon, the (b) group may be experiencing irritation which is not a form of allergy. Reported irritation of the eyes and nose has been explained as nonallergic responses because the reaction occurred in both allergic and nonallergic individuals."

"If true tobacco smoke allergy exists, it is believed to be quite rare, but may be considered a third grouping. The method of determining whether an allergy exists has not been settled although many allergists make use of a skin test using tobacco leaf extract. Such skin testing is not at all comparable to exposure to tobacco smoke. There are, of course, many substances (such as pollens and household dusts) which may elicit an allergic response. It seems impractical, however, to seek to protect allergic individuals by regulating one out of countless sources of allergens."

No Tobacco Allergy Found

Drs. John C. McDougall and Gerald Gleich of the famed Mayo Clinic in Rochester, Minnesota (USA), gave a report on "Tobacco Allergy: Fact or Fancy?" at the 1976 meeting of the American Academy of Allergy. They said they had been unable to find allergy to tobacco and tobacco smoke in the subjects they studied.

"It should perhaps be stressed," they said, "that a negative study such as this one does not imply that persons with other allergies should expose themselves to tobacco smoke without fear of provoking symptoms, but it is likely that those symptoms they experience are due to nonspecific irritations."

Dr. Carl Seltzer of the Harvard School of Public Health told an earlier meeting of allergists of a survey of nearly 70,000 persons which disclosed that nonsmokers have higher rates of hay fever and asthma than do smokers.

The most obvious explanation is that people with allergies avoid smoking, he said. There is also the possibility that smoking may suppress hay fever and asthma, but "we have no data to support this hypothesis," Dr. Seltzer added.

Dr. Geoffrey Taylor, an immunologist at the University of Manchester, England, has written that reactions involving the respiratory tract are not uncommon in passive smokers. "Atopic individuals (those with an inherited tendency to develop some form of allergy) react more than do nonatopics," he said, "but the true incidence of this problem is not known with certainty."

Theoretically, tobacco smoke contains agents which could act as instigators and induce an immunological response, Dr. Taylor noted, but there is no proof that specific sensitization to tobacco exists.

Smoke Exposure of Asthmatics

Dr. Melvin First of the Harvard School of Public Health told a scientific symposium that hypersensitivity to environmental tobacco smoke has been inferred from studies showing a large number of people reporting eye irritation when exposed to smoke. Lesser numbers report nasal symptoms, headaches, cough, sore throat, and nausea, he said.

"Nevertheless, there is as yet no proof that specific sensitization to tobacco smoke exists," he said. The increased responsiveness of individuals may be due to irritation by one or more of the smoke components or to annoyance reaction.

Scientists Comment On Public Smoking

Many scientists and physicians who have done actual research on public smoking or are familiar with the medical literature on the subject, have made comments that are of direct relevance. Here are some:

"It may be said that, according to the present state of knowledge, passive smoking does not cause physiological injury to nonsmokers" - Dr. H. Schievelbein of the German Heart Centre, Munich. Dr. Schievelbein was a member of the World Health Organisation's Expert Committee on Smoking and Health.

"...our results suggest that concentrations of CO from cigarettes and cigar smoking do not present an inhalation hazard to nonsmokers" - Drs. D. P. Bridge and M. Corn, Graduate School of Public Health, University of Pittsburgh, Pennsylvania (USA).

"Probably not, no. The amount that you breathe in is so small in comparison with the amount that you take in when you smoke a cigarette" - Sir Richard Doll, Oxford, England, who for many years has said smoking is harmful to cigarette smokers.

"There is no evidence to date that passive smoking leads in the long run to typical smokers' diseases or to an increased health risk in an average healthy person. There are no plausible reasons to justify the assumption that such disturbances develop in passive smokers in the short term" - Prof. Dr. W. Klösterkotter and E. Gono, Essen University, Germany.

"Potential health effects of tobacco on the nonsmoker have recently been reviewed... No data are available to demonstrate health effects of physiologic response to nicotine levels reached in adult nonsmokers, and carbon monoxide concentrations in nonsmokers are far below levels that are known health hazards" - Dr. Gary L. Huber, Harvard University, Boston (USA).

"A number of research papers have been published on this subject. I am advised that they provide no clear evidence to show that tobacco smoke is harmful to normally healthy nonsmokers or that a heavily tobacco smoke laden atmosphere has other than a transient effect..." - Dr. David Owen, Minister of State (for health) in England in 1975.

"I do not have any hard evidence in that direction (that passive smoking harms the nonsmoker). To my knowledge, it is not in fact, actually harmful" - Dr. Jonathan E. Rhoads, chairman of the U.S. National Cancer Advisory Board and former president of the American Cancer Society.

"Passive smoking can provoke tears or can be otherwise disagreeable, but it has no influence on health. In this case, the doses are too small" - Dr. Ernst L. Wynder, president of the American Health Foundation, New York City, who has long proclaimed the hazards of tobacco for smokers.

"In very direct terms there is no medical proof that nonsmokers exposed to cigarette smoke in ordinary relations with smokers suffer any damage" - Dr. Reul Stallones, University of Texas and an advisor to the 1964 U.S. Surgeon General's Advisory Committee on Smoking and Health.

"The present evidence indicates that there is virtually no risk to the healthy nonsmoker..." - Sir Charles Fletcher, chairman of an Expert Group appointed by the British organization, Action on Smoking and Health, which was established by the Royal College of Physicians of London. (The above is from the group's report on pipe and cigar smoking published in a British medical journal.)

"As is always the case in any group that becomes anti of any situation or circumstance, there are always loud voices and much flag-waving. So it is in the anti-smoking group... Smoking may be offensive to certain people but so is an alcoholic breath, a sweaty body, an unkempt figure, a crying baby, or an undisciplined child... if you ban smoking then will you ban these other annoyances and inconveniences?" - Dr. Paul B. McCleave, while serving as director of the department of medicine and religion of the American Medical Association.

"If we want to remain with facts and not with fiction, there is little danger of disease to people that stay in a room where people smoke" - Dr. Gio Gori, U.S. National Cancer Institute (1976).

Editor's Comment:

The Solution Is Courtesy

Courtesy is the solution to any problem, whether real or imaginary, that may exist between smokers and nonsmokers. Add to this understanding and consideration, and there will not be situations of smokers vs nonsmokers, but rather one where each respects the other's preferences.

Everyone is occasionally subjected to annoyances and irritations from many sources, including those that result from the personal characteristics or customs of others. Such situations can be handled sensibly, if one maintains tolerance for the preferences of others. Nobody wants a government to intrude in such matters, for then there arises the spectre of legislative restrictions seeking to control many aspects of life.

Smokers who are reasonable in the enjoyment of their custom will not let it be an annoyance to others. A courteous approach will do much to lessen any friction that may arise and will increase mutual respect and understanding.

About This Publication

The purpose of SMOKING AND HEALTH NEWS is to inform employees about medical and scientific findings and views, publicly expressed, that are often ignored by the news media. The material included shows that more research is needed to answer the questions raised about smoking.

ARE NONSMOKERS HARMED BY CIGARETTE SMOKE FROM THE SMOKER?

The normal nonsmoker is not harmed by cigarette smoke. In certain situations it may be an annoyance for some, but not a health hazard. Yet, we are faced with many annoyances in present-day life. Lately, anti-smoking forces have attempted to severely limit or prohibit smoking in public facilities. As I understand there is no scientific basis for this. We believe that personal courtesy and proper ventilation are better options than legislating social behaviour.

WHAT HAS BEEN THE EXPERIENCE IN THOSE AREAS WHERE LAWS HAVE BEEN PASSED PROHIBITING CIGARETTE SMOKING IN PUBLIC PLACES?

From what I've been told or read, hardly any effect. Such laws have proved to be distortions of public priorities. They are virtually unenforceable. Local governments have neither the resources in terms of police officers, fire marshals or health inspectors to enforce the restrictions nor the desire to do so because of obviously higher priorities in terms of real criminal problems. Should someone really be booked with a criminal record, a fine, or jail just for lighting up? In my opinion legislating social behaviour does not produce laws that are fair, reasonable or enforceable.

WHY HAS THE NONSMOKER MOVEMENT COME INTO BEING? WHY, ONLY RECENTLY, HAS SO MUCH ATTENTION BEEN GIVEN TO RESTRICTIONS ON SMOKING

Since all previous efforts to reduce cigarette consumption have failed, the anti-smoking forces are shifting their emphasis from the smoker to the non-smoker. By frightening nonsmokers into believing that their health will be adversely affected by tobacco smoke, these anti-smoking activists apparently hope that they can ban smoking from all public places. By portraying smokers as some sort of social outcasts, even criminals by making smoking unlawful in some places, they are turning smokers into second-class citizens. In the long run, they must hope that their activities will reduce smoking by making it socially unacceptable. However, such tactics are not based on scientific evidence, but on extreme statements.

DON'T CARBON MONOXIDE LEVELS FROM TOBACCO SMOKE IN ENCLOSED SPACES BECOME HARMFUL?

As I understand it, carbon monoxide (CO) is a colorless, odorless gas, which occurs both naturally and through man-made sources. Burning cigarettes produce an insignificant amount of the total CO in our atmosphere, compared to other man-made sources such as the exhaust from cars. The amount of CO produced by a cigarette varies with the type of tobacco and its processing, the type of paper and filters, and patterns of smoking. I am advised that many reported "health" effects of CO have been determined under experimental conditions in which the subjects were continuously exposed to CO. This, of course, does not parallel the intermittent exposure to CO present during cigarette smoking. For the nonsmoker, the CO exposure due to cigarette smoking is small and presents no proven health hazard.

ARE MANY PEOPLE ALLERGIC TO TOBACCO SMOKE?

I am not qualified to comment on this but I am advised that true tobacco smoke allergy, if it even exists, is believed to be quite rare. Most people claiming to be allergic may be actually complaining about minor displeasure or their dislike for the aroma of tobacco smoke.

WHAT ABOUT THE CLAIMS THAT CHILDREN OF SMOKING PARENTS TEND TO HAVE MORE RESPIRATORY DISEASE? ISN'T THIS GOOD EVIDENCE THAT SMOKING IN PUBLIC SHOULD BE RESTRICTED?

Such claims are apparently an attempt to show that tobacco smoke is harmful but they are clearly irrelevant to the subject of smoking in public places. While they do have an emotional appeal, they are not based on convincing scientific evidence.

I am advised that several studies have indicated that there is no relationship between parental smoking habits and respiratory symptoms in their children, but they have noted a possible connection between children's respiratory symptoms and air pollution, socioeconomic status, or the parent's respiratory symptoms.

YOU SEEM TO THINK THAT CIGARETTE SMOKING IS ONE OF YOUR CIVIL RIGHTS. BUT WHAT ABOUT THE "RIGHTS" OF THE NONSMOKER - DON'T NONSMOKERS HAVE THE RIGHT TO BE FREE FROM EXPOSURE TO TOBACCO SMOKE.

If you can show that an activity of mine seriously harms you, then I will agree that it may be appropriate to place restrictions on that activity. As I have said, this has not been shown to be the case with cigarette smoking.

It is a completely different situation when my activity is not harmful to you but you merely find it to be an annoyance. We all may be annoyed by a multitude of things - a crying baby, a compulsive talker, an unwashed body, or a long-winded political speech. That doesn't give us the right to make them illegal.

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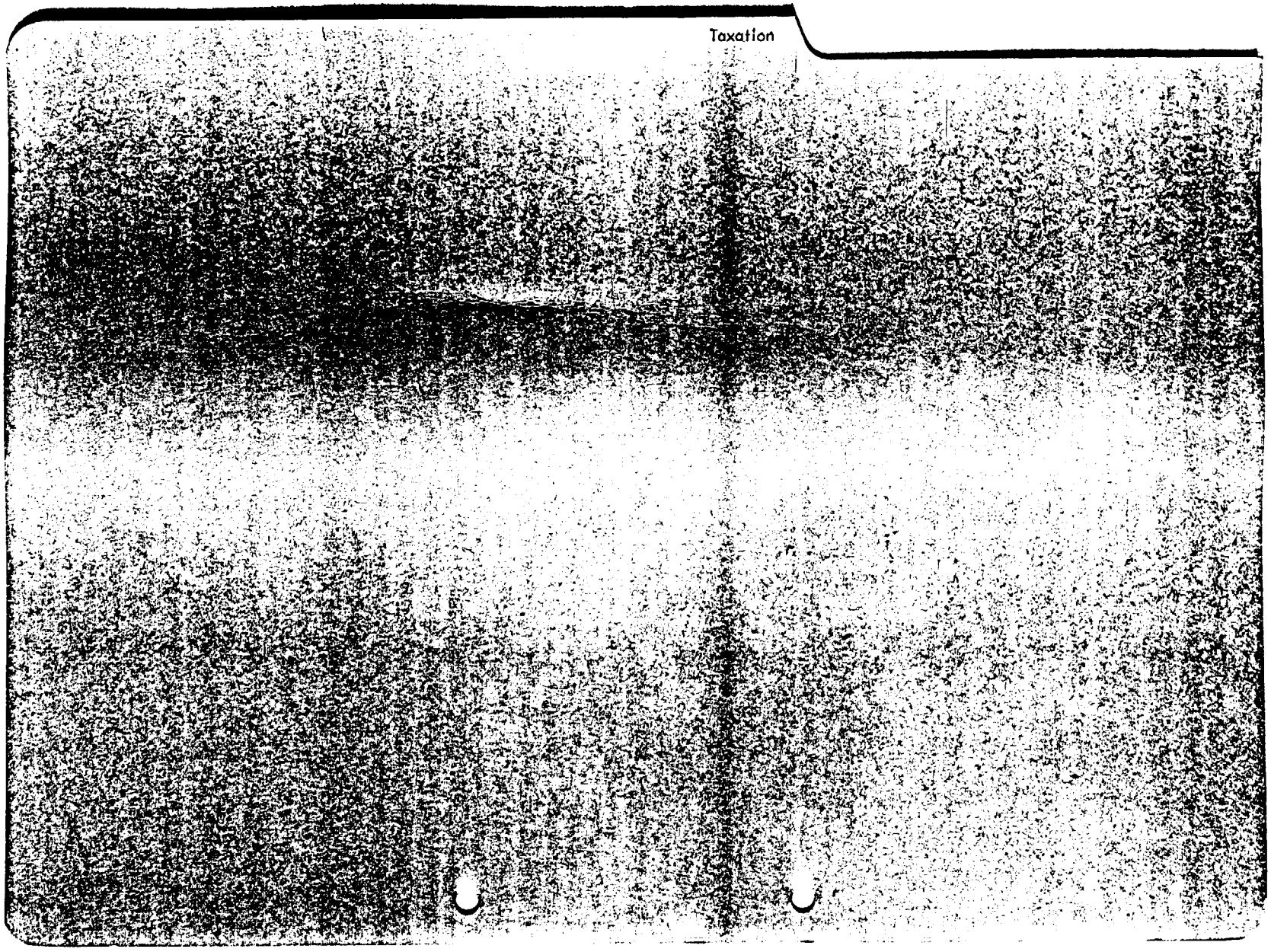

Draft
November 7, 1977

SHOULD TAXATION BE USED AS AN INSTRUMENT OF "HEALTH POLICY"? -- A SUMMARY IN OPPOSITION

Anti-smoking activists frequently urge that taxation be used as part of a so-called "health policy" against cigarettes. However, such proposals raise many serious problems, which should be considered before any precipitous action is taken. An examination of these problems indicates that the claims made in support of tax proposals may not be based on fact. A number of such claims with brief factual responses are listed below. These responses are discussed at greater length in the attached paper.

1. Taxes should be used to force customers to reduce the number of cigarettes they smoke.

FACT

Higher taxes probably would force some people--those citizens with low incomes--to reduce the number of cigarettes they smoke. But such taxes are discriminatory because (1) they hit hardest at those least able to pay and (2) cigarette smokers paying the increased tax are not provided with additional benefits or services by the taxing authority.

2. Higher cigarette taxes mean more revenue for the government.

FACT

Increased taxation does not necessarily mean the government will receive more revenue since lower consumption of manufactured cigarettes may mean reduced taxable sources (i.e.

cigarette sales, industry and personal income, etc.). This happened in West Germany, where a reported trend to self-rolled cigarettes after a recent tax increase actually caused a loss to the treasury of more than the millions which it had hoped to gain by raising taxes.

3. Graduated taxes based on constituent levels are an appropriate means of taxation.

FACT

Supporters of graduated taxes apparently hope that the resulting price differential will encourage consumers to switch to cigarette brands with lower "tar" and nicotine deliveries. However, such taxes would be inappropriate, since it has not been proven that the substances measured are important to the health of the individual smoker. Furthermore, those governments which have tried to impose such tax programs found consumption of cigarette brands with higher deliveries was not significantly reduced. Instead, such programs have led to the loss of governmental revenue, criticism of governmental bureaus which imposed the taxes and the unauthorized transport of cigarettes from markets without graduated taxes to markets with these taxes.

As a result of such problems, any attempts to utilize taxation as an instrument of a so-called "health policy" are precipitous and unwise.

Draft
November 7, 1977

SHOULD TAXATION BE USED AS A MEANS
OF CHANGING CITIZEN SMOKING PRACTICES?

In the past, anti-smoking activists have made many proposals which they thought would reduce cigarette consumption. Proposals have been made to increase taxes on cigarettes as part of a so-called "health policy." Supporters of such taxation proposals generally favor imposing either a very high tax on all cigarettes sold or a graduated tax based on certain components of tobacco smoke, such as condensate ("tar") and nicotine. However, such tax proposals, if passed into law, could create many serious problems without reducing overall tobacco consumption. For example, increasing the already high levels of cigarette taxes would strike hardest at those with low-incomes--those least able to pay. The proposals to tax cigarettes based on so-called "tar" and nicotine deliveries also ignore the fact that these substances have not been proven harmful to the smoker and the past experience of governments which have tried to impose such a tax. Instead of lowering the consumption of cigarette brands with higher constituent ratings, such tax efforts have led to: (1) the loss of tax revenue, (2) criticism of the governmental bureaus which have imposed those taxes, and, (3) in some situations, attempts to avoid higher taxes by private citizens and certain others who illegally transport and sell cigarettes from markets with lower taxes.

HIGHER CIGARETTE TAXES DISCRIMINATORY

Attempts to reduce cigarette consumption through the use of taxation raise a number of questions. Governments and citizens alike might ask: Does a Government have the right to interfere with the private lives and freedoms of citizens by taxing and, therefore, limiting their purchases of a legal product? Does a Government have the right to determine health standards for its citizens and then to force them into complying with its views? What are the potential political and fiscal effects of an increased cigarette tax?

Increased taxes would lead inevitably to some reduction in sales of manufactured cigarettes, as financially hard-pressed citizens respond to higher prices. However, it is not a proper function of taxation to force a decrease in consumption of a product which is legally sold on the market. Certainly, much controversy would follow if a government attempted to decrease consumption by substantially raising the taxes of such products as sleeping and pain pills, insecticides, meat and dairy products, and products containing sugar. However, no one has proposed using taxation to decrease consumption of those products, even though they have also received a great deal of attention as possible health hazards. Therefore, use of taxation to reduce cigarette consumption would be an unjust and illogical use of taxation power.

In determining whether taxation should be utilized as part of a "health policy," the right of government to regulate the private lives of its citizens must be examined. During hearings before the United States Congress in 1976, an elected official argued against the Government's involvement in the citizen's decision to smoke, which he described as "only one of many personal decisions which may or may not have a bearing on health."[1] He explained:

> "Such things as exercise, the amount and kinds of food consumed, or--if we believe one recent study--whether one gets more or less than eight hours of sleep a night--all of these things are statistically related to longevity, and in some cases to specific diseases. Of course, there is no thought of taxing in these areas; here the government must be content to advise. I would put smoking with these other personal decisions and would suggest that the government's responsibilities are of the same nature here. In fact, education and dissemination of information must be the limit of government's role where purely personal health decisions are involved."

Furthermore, cigarette taxes discriminate against all smokers who pay additional taxes but do not receive any additional governmental benefits or services. Cigarette taxes wrongly discriminate against smokers with low-incomes as they must pay the same tax rate per pack of cigarettes as smokers with high-incomes. As a result, the impact of rapidly rising cigarette taxes has been to add to the disproportionate tax burden of cigarette smokers, especially those with lower incomes.

These arguments against such taxation have been expressed by several government officials. For example, Dr. David Owen, former British health minister, said any effort to eliminate cigarette smoking by taxation would be wrong[2] because it would hit hardest at those people with low incomes.

A government that unwisely uses its taxing policy may have an economically embarrassing result. Increased taxation affects not only the smoker and the cigarette industry, but the tax structure of the country as a whole. Since increased taxes probably would mean a reduction in cigarette consumption and--in turn--a reduction in taxable cigarette sales and industry income, the Government would lose a great deal of anticipated revenue. For instance, the treasury in West Germany may have lost more than the millions it hoped to gain when a recent tax increase accelerated a trend to self-rolled cigarettes.[3]

In the United Kingdom, concern has been expressed that higher cigarette taxes may be absorbed by the average trade unionist, who will see to it that his next pay raise includes the higher cost of tobacco, thereby fanning the fires of inflation.[4]

HIGHER CIGARETTE TAXES COULD CHANGE PRACTICES OF SMOKERS

Anti-smoking activists apparently hope that higher taxes will cause smokers to reduce the number of cigarettes they smoke or to switch to cigarettes with lower "tar" and nicotine levels. However, there is no assurance that cigarette smokers

will respond to increased taxes in this way. Instead of reducing cigarette consumption, smokers might change how they smoke or what they smoke in a manner which would not be approved by those who contend that smoking is injurious to health. Higher taxes might cause cigarette smokers to take additional puffs on each cigarette or even smoke the cigarette down to the very end. This should concern those who contend that the danger of smoking increases as the cigarette is burned closer to the end. For instance, a West German writer felt that "the worst possible reaction to a prohibitive cigarette tax from the point of view of health would be for consumers to avoid the tax by taking one or two extra draws on their cigarettes, or even--as after the war--smoking them right down to the last strand of tobacco."[5] This opinion is shared by a scientist from the Netherlands who wrote that "if cigarettes are made more expensive, one will be more disposed to smoking a cigarette to the bitter end, in the literal meaning of the word."[6]

Higher taxes also might cause cigarette smokers to switch to tobacco products which are cheaper than cigarettes but are viewed by some as even more potentially injurious to the smoker such as self-rolled cigarettes without filters. An increase in consumption of self-rolled cigarettes has already occurred in those countries which have recently increased cigarette taxes.

GRADUATED TAXES BASED ON "TAR" AND NICOTINE RATINGS CAUSE MANY PROBLEMS

In some areas, proposals have been made to tax cigarettes based on the "tar" and nicotine deliveries of the individual brands--the higher the ratings, the higher the tax. Although the stated purpose of such a tax would be to raise revenue, a secondary purpose logically must be to influence the sales of cigarettes with higher deliveries. Supporters of such proposals apparently hope that graduated taxes will encourage customers to switch to cigarette brands with lower ratings. However, there are several scientific and practical arguments which must be considered in studying such measures.

Taxation of cigarette brands based on ratings would seem to indicate that the substances measured are important to the health of the individual smoker. However, this has not been proven.

In fact, after years of tests, nicotine as found in cigarette smoke has not been proved harmful to the smoker, and what is commonly called "tar" is not even produced in the smoking process. Nicotine is the constituent in tobacco smoke that has historically received the most attention. The U. S. Terry Report, which reviewed tobacco smoke components, concluded that: "[T]he chronic toxicity of nicotine in quantities absorbed from smoking and other methods of tobacco use is very low and probably does not represent a significant health problem."[7] Since that report,

no data have been published which would require a change in this statement. While the word "tar" has frequently been mentioned as a component of tobacco smoke, it actually refers to the particulate matter collected by laboratory methods, which do not duplicate the smoking process.[8] Why then should these substances be singled out for taxation?

If a graduated tax were to be implemented, standardized testing procedures would need to be established to determine the deliveries of such substances in cigarette smoke. The experience of those countries with graduated taxes indicates the need for tests which require elaborate, costly equipment and trained personnel. Will the Government, the cigarette industry or the smoker have to assume this expense? How will such tests allow for the many variations which exist between tobaccos? Differences in cigarette tobaccos are influenced by the types of fertilizer used, the weather conditions and the processing procedures. Even if these initial difficulties can be overcome, questions must be asked about the accuracy of the test ratings. Any effort to establish constituent levels can only be approximate since differences of 1/10th of a milligram or one milligram probably do not make much difference and could even be misleading. Such problems apparently would be ignored in establishing a graduated tax system. But can such errors be allowed if a taxation program is to be fair and equitable?

In considering some of these questions during 1976 U. S. Congressional hearings, an official of the United States Department of Health opposed implementation of a graduated tax system.[9] He called such a program "of doubtful effectiveness," and added:

> "We have seen no definitive evidence that demonstrates that the decline or rise in cigarette consumption is a function of price, nor have we seen evidence that relatively small differences in prices among brands--as would result if taxes were differentially imposed on the basis of their "tar" and nicotine content--would induce consumers to switch to the less expensive brands."

This proposed law was not passed!

There are more problems to be considered in implementing a graduated tax system. If the proposed tax rates vary with both

and nicotine content, which are seldom the same between even two brands of cigarettes, there could be as many taxes as tnere are brands--possibly even dozens of different taxes. Enforcement of the different tax levels could become a costly administrative problem.

In determining whether to implement a graduated tax, its supporters might be wise to examine the experience of a governmental bureau in the United States which used such a system. On July 1, 1971, a cigarette tax based on the "tar" and nicotine content of individual cigarette brands went into effect in New York City. Since that time, it is estimated that a criminal racket specializing in smuggling cheaper cigarettes from surround-

has cost New York City and New York State over $600 million

in excise taxes, and the tobacco industry in the state $2 billion in retail sales. As a result, an estimated 35 percent of the wholesalers in New York City has gone out of business, and an estimated 2,000 jobs have been lost.[10] What would prevent the repetition of this situation in any city or country which imposed such a tax, and was located near markets which did not?

Obviously, any attempt to use taxation as a means of reducing cigarette consumption would encounter great problems. Not only would such a tax discriminate against smokers buying a legal product, but it could cause serious fiscal and legal problems. Until these questions have been carefully considered, any efforts to increase taxation on cigarettes would be precipitous and unwise.

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10. "Groups Meet to Fight Bootleg Cigarette Racket," Tobacco Reporter, March, 1977, pp. 55-56.

SHOULD HEAVY TAXES BE USED TO FORCE CUSTOMERS TO REDUCE THE NUMBER OF CIGARETTES THEY SMOKE

Higher taxes probably would force some people - those citizens with low incomes - to reduce the number of cigarettes they smoke. But such taxes are discriminatory because (1) they hit hardest at those least able to pay and (2) cigarette smokers paying the increased tax are not provided with additional benefits or services by the taxing authority.

ARE GRADUATED TAXES BASED ON CONSTITUENT LEVELS AN APPROPRIATE MEANS OF TAXATION?

Supporters of graduated taxes apparently hope that the resulting price differential will encourage consumers to switch to cigarette brands with lower "tar" and nicotine deliveries. However, such taxes would be inappropriate, since it has not been proven that the substances measured are important to the health of the individual smoker. In fact, Dr. Peter Bourne, Special Assistant to President Carter on Health Issues in the U.S. stated in a recent speech : "The safer cigarette should not be assumed to be one of low tar and low nicotine."

DO HIGH TAXES HAVE AN EFFECT ON SMOKING PRACTICES?

Anti-smoking activists frequently urge that taxation be used as a part of a so-called "health policy" to reduce cigarette consumption. Instead of meeting this intended goal, we feel that it is important to realize that high taxes may change how individuals smoke or what they smoke in a manner which would not be approved by those who contend that smoking is injurious to health. For example, higher taxes might cause cigarette smokers to take additional puffs on each cigarette or even smoke the cigarette down to the very end. Also, higher taxes might cause cigarette smokers to switch to products which are cheaper than cigarettes but which are viewed by some as even more potentially injurious to the smoker. Therefore it would seem that higher taxes may be a counterproductive measure.

WHAT HAS BEEN THE EXPERIENCE OF THOSE AREAS WHERE HIGH OR GRADUATED TAXES HAVE BEEN INTRODUCED?

Supporters of such taxes apparently hope that higher taxes will cause a reduction or a switch by smokers to brands with lower "tar" and nicotine deliveries. However, it is my understanding that governments which have tried to impose higher or graduated tax programs have experienced (1) a loss of tax revenue, (2) sound criticism of the governmental offices which have imposed the taxes, and (3) unauthorized transport of cigarettes from markets without high or graduated taxes to those markets with these taxes. Furthermore, consumption of cigarette brands with higher deliveries has not been significantly reduced. All in all, such experiments in the use of taxation powers have proven to be an embarrassment.

DO HIGHER CIGARETTE TAXES RESULT IN MORE REVENUE FOR GOVERNMENTS?

Increased taxation does not necessarily mean the government will receive more revenue since lower consumption of manufactured cigarettes may mean reduced taxable sources (i.e. cigarette sales, industry and personal income, etc.) This happened in West Germany, where a reported trend to self-rolled cigarettes after a recent tax increase actually caused a loss to the treasury of more than the millions which it had hoped to gain by raising taxes.

PRINTING CONSTITUENT LEVELS ON CIGARETTE PACKAGES - SOME PRACTICAL CONSIDERATIONS

Regulations which require the printing of "tar", nicotine and carbon monoxide deliveries of cigarettes on cigarette packages apparently ignore a number of medical considerations and practical difficulties.

The printing of such ratings on cigarette packages would seem to indicate that these substances are important to the health of the smoker. However, no scientific relationship between such cigarette smoke constituent levels and human health has been proved. In fact, after years of tests, carbon monoxide and nicotine as found in cigarette smoke have not been proven harmfull to the smoker, and "tar" is not even produced in the smoking process. (For a brief discussion of such medical evidence, see the attached paper.) Without a proper cautionary statement that these substances are not known to be significant to the health of the smoker, such representation of data could be regarded by many as false and misleading.

There are also many practical - and perhaps insurmountable - difficulties in establishing mechanical testing procedures which attempt to duplicate the actual human smoking process. Ratings obtained from mechanical tests do not accurately reflect levels encountered by individual smokers. For instance, no two human smokers smoke in the same way, and no individual smoker smokes in the same way at all times. Some smokers take long puffs; others take short puffs. Some put their cigarettes down in an ashtray where they burn between puffs; others constantly hold cigarettes in their mouths. The individual smoker may take more or less puffs, depending on whether he is relaxed as while reading a book or excited as while watching a sporting event. These variations will affect the "tar," nicotine and carbon monoxide generated. How can mechanical measurements account for all of these differences and still give the smoker a reasonably standardized reflection of the "tar," nicotine and carbon monoxide delivery of the cigarette?

Other questions must also be answered before establishing testing procedures. How accurate are differences of one or two milligrams in the testing procedures? Any effort to establish "tar," nicotine and carbon monoxide levels can only be approximate since differences of 1/10th of a milligram or 1 milligram could be trivial and even misleading. During 1970 hearings before the United States Congress, the then chief medical official of the country said such an index "was very crude." (1)

There are many other questions which must be considered before establishing a meaningful testing procedure. How many cigarettes per brand will be tested? Many variations exist between tobacco used in cigarettes based on the types of fertilizer used, the weather conditions and the processing procedures. (2) Will enough cigarettes be tested to allow for such differences? How often will such tests be made? Has a "standardized" cigarette been developed against which testing results can be compared? Will a governmental agency or private business run comparative tests to evaluate and provide control for these complex scientific procedures which are highly susceptible to error? What governmental or private entity will bear the expense of purchasing and then operating this equipment? Will this increase the cost of manufacturing cigarettes, and the cost to the smoker?

Finally, will such labeling requirements stop with "tar," nicotine and carbon monoxide, or will ratings from other substances be suggested for addition at some later time? The inclusion of these three substances might already be enough to confuse the consumer. For instance, when suggestions were made to add carbon monoxide yields of cigarette smoke to Government Smoking Tables in the United Kingdom, the British Medical Journal published an article in which two researchers objected to the proposal. The article called for a delay of such action until further medical evidence could be gathered about the significance of the different components of cigarette smoke. The scientists stated that the "inclusion of CO yields would make the tables confusing to smokers ... as some cigarettes with high CO yields have low 'tar' and nicotine yields, and vice versa." (3)

If labeling proposals are intended to benefit the consumer, it might be wise to consider all the effects of such actions before taking any action. Would it benefit the consumer, as some have suggested, or confuse him? Until these questions can be answered, any such actions should be postponed.

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CONSTITUENTS OF TOBACCO SMOKE

Recent attention has been given to certain components of tobacco smoke such as "tar," nicotine, and carbon monoxide. It is important to emphasize, however, that scientific research does not support the conclusion that these and other components, as found in tobacco smoke, cause disease in humans. (1) Tobacco smoke is a highly complex mixture of over 1,500 ingredients and until the variables of testing and the complexities of ingredient interaction are understood and controlled (2-9), it is improper and unscientific to describe individual tobacco smoke constituents as disease-producing. The following discussion demonstrates the uncertainty of scientific research in this area.

"TAR"

It should be initially emphasized that there is no such substance as "tar" in cigarette smoke. The term "tar" refers to the particulate matter (which may differ widely from cigarette to cigarette) collected by laboratory methods. This is done by two different laboratory processes. The first method and the one most widely used in scientific research, involves passing cigarette smoke through a cold trap at extremely low temperatures. The dark viscous substance collected in this manner is often painted on the skins of rodents to test for tumor production. Clearly, the smoker is not exposed to this substance. The second method, rarely if ever used in animal experimentation but commonly used in determing the "tar" and nicotine content of cigarettes sold on the market, utilizes the Cambridge filter process. This filter is weighed before and after machine smoking, and the difference, as expressed in milligrams, is the "tar" level as shown in constituent tables. Here again, there is no evidence that the smoker is exposed to this laboratory product. Neither method of collection successfully duplicates the actual smoking process. (10-12)

Much emphasis has been placed on the fact that tumors developed during some experiments in which "tar" was painted on the shaved backs of test animals. However, these experiments are unrealistic and inappropriate for comparison to humans.

For one thing, the doses used in some of these experiments have been estimated to equal a man smoking 100,000 cigarettes a day. (13) In addition, it is not scientifically valid to extrapolate results obtained with "tar" on certain rodents' skin to human smoking conditions. There are great differences between mouse skin and lung tissue. It has been said that these experiments involve the application of "the wrong material, in the wrong form, in the wrong concentration, to the wrong tissue, of the wrong animal." (14)

Consequently, few conclusions can be drawn from the existing studies and continued allegations with regard to "tar" must be viewed as misleading.

NICOTINE

The constituent in tobacco smoke that has historically received the most attention is nicotine. After years of scientific research there is still no proof that nicotine has harmful effects on smokers. While there have been improvements in testing techniques that allow researchers to measure nicotine intake, these tests merely show that there is great variability among smokers. In fact, no correlation between the nicotine level of a cigarette or the number of cigarettes smoked and nicotine intake in smokers can be made because of individual variations in puff rates, inhalation, and metabolism of nicotine. (15)

One of the most concentrated reviews of tobacco smoke components occurred during the preparation of the U.S. Terry Report. In discussing nicotine, the Report concluded that: "(T)he chronic toxicity of nicotine in quantities absorbed from smoking and other methods of tobacco use is very low and probably does not represent a significant health problem." (16) Since this Report, no data have been published which would require a change in this statement. On the contrary, studies have confirmed the conclusion that nicotine in the body is rapidly metabolized and converted into other substances.

Studies which suggest that nicotine might have useful effects to the smoker (17-18) are frequently ignored and are seldom brought to public attention. Nicotine has been described as both a stimulant and a depressant depending upon the mood of the individual. (19-20) Experimental work has also shown that nicotine increases performance levels and learning capacity in both animals and humans. (21-28) While much more work remains to be done in this area, the possible useful effects of nicotine on humans must be considered in any objective analysis of smoking.

CARBON MONOXIDE

It is a well known fact that carbon monoxide (CO) is formed as a product of the incomplete combustion. Notable man-made sources include the exhaust fumes of automobiles and emissions from industrial processees. What is not widely known is that carbon monoxide is also a natural body constituent created by normal metabolism. It has been estimated that without any exposure to environmental carbon monoxide, the blood contains from 0.2% to 1.0% carboxyhemoglobin (COhb is the compound formed by CO and the red blood pigment). (29)

Since some charge that cigarettes are an important source of carbon monoxide, the following question is relevant: How much carbon monoxide do cigarettes generate? Scientists have estimated that approximately 78 milligrams of CO are released by the burning of a cigarette. (30) It has been estimated that all of the CO released into the atmosphere by all of the cigarettes smoked yearly throughout the world is "negligible" compared to the total amount of CO produced by natural sources each year. (31)

In recent years statements have been made linking carbon monoxide in cigarette smoking with cardiovascular disease. One of the reasons for this charge is that some research shows that an average smoker to have higher levels of carbon monoxide in their blood than non-smokers. However, it has never been demonstrated that the reported small increases in COhb levels in smokers are harmful to health. (32-33) In fact, several studies of tunnel workers and factory workers exposed for

many years (10-18) in their work to high CO levels have not shown any earlier or more substantial circulatory abnormalities attributed to atherosclerosis, for example, than attributed to the general population. (34-35)

Possibly because experiments with humans have failed to prove the role of carbon monoxide in cardiovascular disease (36-37), anti-smoking claims have emphasized the animal studies of certain researchers. Yet when animal experimentation is viewed as a whole, it also fails to provide consistent results with regards to carbon monoxide exposure. (38-44) Some of the most recent data even indicate that carbon monoxide, as found in cigarette smoke, has different effects than similar amounts of CO from other sources. (45)

Still other claims have been made that carbon monoxide from cigarettes has a deteriorating effect on the smoker's ability to perform tasks, such as judging time intervals and making decisions associated with driving an automobile. Such claims are not adequately supported in the scientific literature. Researchers who have conducted experiments with individuals exposed to carbon monoxide have found that the smoker's performance ability is not affected by long-term exposure to carbon monoxide. (46-48)

Obviously, such inconsistent and conflicting scientific results indicate that the claimed effects of carbon monoxide, as found in cigarette smoke, are without convincing scientific support. Realistic research that has relevance to the human situation is needed; more unproven claims can only be counterproductive.

CONCLUSION

There have been numerous claims that certain constituents of tobacco smoke are responsible for disease in smokers. Research involving these components of tobacco smoke has failed to produce the evidence necessary to support such claims. In addition, some researchers continue the use of what are clearly unrealistic experimental situations. Only when scientists consistently examine tobacco smoke and its constituents in relevant experiments will answers to the complex biological questions be found.

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IS YOUR COMPANY TRYING TO DEVELOP A "SAFER" CIGARETTE?

We do not believe smoking has been proved to be safe. Neither do we believe that it has been proved to be harmful. Certainly, to my knowledge, no one has identified ingredients in the quantities actually found in tobacco smoke as responsible for the diseases which some people attribute to cigarette smoking.

Philip Morris is committed to research into cigarettes and cigarette smoke for the continued development of high quality products. New products are constantly being developed and introduced to meet the demands of the marketplace.

ISN'T IT WELL KNOWN THAT "TAR" IS HARMFUL TO THE SMOKER?

I am not a scientist but as I understand it, no constituent as found in tobacco smoke has been proven to be harmful to humans. I am advised that "TAR" is the particulate matter collected by super-cooling and condensing tobacco smoke under special laboratory conditions. This process is far different from the way we smoke cigarettes. Interest in "tar" is primarily due to early experiments which involved painting this artificially produced substance on animal's skin. This process has also been used with egg yolk and tea substances resulting in skin cancer on the backs of mice. This type of experiment has been called irrelevant among other things because the quantities of artificially produced substances used have been estimated to equal a man's smoking 100,000 cigarettes a day. The skin of a mouse is also far different from the lining of an animal or human lung.

WHAT ABOUT CARBON MONOXIDE AND OTHER GASES CONTAINED IN CIGARETTE SMOKE - ARE THEY HARMFUL TO THE SMOKER?

Whether we smoke or not we are all exposed to carbon monoxide (CO). John McKetta of the University of Texas (USA), who has been described in the U.S. Congressional Record as an "expert in the field of environmental studies," says that 93% of the CO in the air we breathe comes from such natural sources as the oceans and decaying vegetable matter. Any combustion process will produce CO... cooking on a gas range, auto exhaust, garbage dump fires, etc. The average auto traveling 13 miles at 55 mph will emit as much CO as the average smoker does in an entire year from 10,000 cigarettes. No one has proved that the relatively tiny proportion that comes from cigarette smoke is dangerous.

HAS NICOTINE BEEN SHOWN TO BE HARMFUL TO THE SMOKER? IS NICOTINE A DRUG?

While I am not a scientist, my understanding is that no constituent as found in tobacco smoke has been proven to be harmful to humans. I am advised that nicotine from a cigarette is eliminated from the blood rapidly and there is little cumulative effect. Even the 1964 Terry Report stated : "nicotine in quantities absorbed from smoking and other methods of tobacco use is very low and probably does not represent a significant health problem." Although there is a lot of talk about nicotine in cigarettes, to my knowledge this conclusion has never been repudiated and there is no proof that nicotine is dangerous.

I am informed that nicotine is not a drug in the medicinal or narcotic sense. It is a drug in the sense that caffeine and many similar substances are so defined.

IF CIGARETTES ARE NOT HAZARDOUS TO HEALTH, WHY DOES THE INDUSTRY PLACE SO MUCH EMPHASIS IN THEIR ADVERTISING ON THE LOW "TAR" AND NICOTINE BRANDS.

"Tar" and nicotine content has not been shown to have health significance. The industry has made low "tar" and low nicotine cigarettes available to consumers for many years primarily to meet consumer demand. This is a very competitive field and we all try to supply what the consumer wants.

This demand reflects, in my opinion, both the availability of a variety of smoking products and a tendency by some consumers to prefer a lighter or milder smoke. I am sure it reflects to a certain extent the belief by some consumers that low "tar" and nicotine cigarettes are safer. We are not saying or implying that "tar" and nicotine are important to the health of the smoker. In fact, we are told by ~~the Federal Trade Commission~~ Federal authorities not to advertise low "tar" and nicotine cigarettes as "safer" - I believe this confirms in a sense that even ~~the~~ Government are not convinced "tar" and nicotine content means anything.

We are simply supplying consumers what they want. We are also supplying information about the "tar" and nicotine content of cigarettes because some consumers apparently want that information.

WHAT IS THE SIGNIFICANCE OF PRINTING CONSTITUENT LEVELS ON CIGARETTE PACKS OR IN ADVERTISING OR PUBLISHING LEAGUE TABLES?

The printing of cigarette smoke constituent ratings would seem to indicate that these substances are important to the health of the smoker. However, I am advised that no scientific relationship between such constituent levels and human health has been proved. It seems that such representation of data could be regarded by many as false and misleading information when it has still to be proven whether or not these substances, as found in cigarette smoke, are significant to health.

ARE THE WIDELY PROMOTED LOW "TAR" - NICOTINE CIGARETTES "SAFER" FOR SMOKERS?

We are not representing them to be "safer" cigarettes - it has not been proven that any cigarette is "unsafe". Low "tar" - nicotine cigarettes are on the market in response to consumer demand. Through the years the tastes of smokers have changed and with new blends of tobacco, filtration and other means, we have been able to meet these changing demands.

IF SMOKERS SWITCH TO LOW NICOTINE CIGARETTES, DO THEY SMOKE MORE?

Smokers derive a number of different types of satisfactions from smoking cigarettes. Nicotine may be a part of one of those satisfactions but this apparently varies from smoker to smoker in terms of how and what they smoke at different times. I am advised that there are conflicting studies as to whether or not nicotine content is determinative of the number of cigarettes smoked – it appears to be an open question.